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Suggestion:
Cut out; frame neatly; put in show window; change weekly.

GOOD HEATING PLANTS INCREASE REALTY VALUES.

The builder who constructs property to sell or to rent will be wise if he considers the stability to its value which will be afforded by the installation of a good steam or hot water heating plant. To the consumer it is a mark of value equal to good plumbing. A well warmed house is easier sold or is more continuously and better rented. But be sure to use only goods of high grade, guaranteed by the name they bear.

The Use of the Trade Mark "Naco"

In this United States of America, there is a sentiment among a large majority of the people, including architects, manufacturers, contractors and consumers, **favoring the use of goods of first class quality.** As one evidence of this we need only point to the fact that legislatures both State and National, acting in response to public sentiment, have enacted laws looking toward the prevention of deception on the part of manufacturers and dealers in the marking, labeling and describing of goods in almost innumerable lines of trade.

The evils growing out of unwise competition which seemed to bring about the lowering of standards are being slowly, but surely, eradicated by wise and conservative legislation.

We have had no important legislation looking to the control of goods manufactured for the plumbing supply trade, although here and there cities and towns have made rigid specifications covering certain articles in order to guard against abuses which had become intolerable.

The United States Government also, through its Treasury and War Departments, realizing the condition which existed in our allied lines and the impossibility of securing uniformity of goods purchased in the open market, furnishes its own specifications for all sanitary appliances for the use of the Government.

This evil the National Committee of the Confederated Supply Associations is seeking to control by the establishing of the trade name **"Naco."**

If it be successful in its efforts to induce manufacturers of sanitary appliances to adopt specifications for the various lines, giving definite **standards of weight and quality,** an incalculable amount of good will be the result.

Not only will the manufacturer, jobber and plumber be benefited, but the other greater party in interest, the ultimate consumer, will also realize its beneficial effects. When the word "Naco" appears on any article it will indicate that manufacturers of that particular line have met, and after full discussion and consideration, have adopted a standard of excellence to which all must comply if they would preserve the license granted by the National Committee to use the trade name "Naco."

It must not be understood, however, that all goods manufactured will be of this high quality. Manufacturers will, in the future, as in the past, make just such goods as their trade seems to demand, but they will have to sell for what they are, and not be permitted to masquerade as "The Best."

The statement of a gentleman, prominent in the soil pipe industry, is apropos. He states that a manufacturer quotes a jobber a certain price on soil pipe stamped "Extra Heavy" with the understanding that the pipe is

to weigh 20 to 25 per cent less than the recognized standard of weight for "Extra Heavy" pipe. The manufacturer appeals to the cupidity of the jobber, a sale results, but what is the consequence? Within a very short time every other jobber is obliged to purchase, and every other manufacturer to make just that same kind of "Extra Heavy" soil pipe if they would retain their trade.

What is true of the soil pipe industry is probably true to a greater or less extent of every other line. With the adoption by manufacturers of the policy formulated by the National Committee, a condition such as above stated would be an impossibility, for the reason that the manufacturer who sold goods stamped "Naco" and which were not up to the specifications, would be at once deprived of the privilege of using the name.

Now, the question for you to consider is, "How will it affect our business; what influence will it have on our finances?" We are all in our respective lines actuated by the desire, primarily, to make money, and altruism and sentiment are secondary.

If we believe that the manufacture and sale of high grade goods, goods of quality and merit is more profitable than the handling of cheap or inferior ones, then we must favor the policy of the National Committee in its efforts to raise the standards.

Now, I believe that whether as corporations or individuals, States or nations, we cannot stand still. We either advance or retrograde. The present tendency in the manufacture of goods to cheapen and to lower their quality is a tendency towards retrogression and not advancement. The purpose of the National Committee and of the Central and Eastern Supply Associations, the organized industry of the country today in this line, when they met in Detroit in 1908. was to start a movement looking to the betterment of things.

That such policy is wise would seem apparent after a glance across the country. Without mentioning names, each can form a mental picture of the conspicuously successful ones among the manufacturers and jobbers of plumbing supplies. Did they establish their prestige, reputation and high standing by the manufacture and sale of inferior goods? Surely not! Nor can you or I.

I believe this movement, if carried to a successful issue, will go far towards eliminating some of the worst features of competition, that it will encourage the manufacture and sale of better, rather than inferior goods, and that the word **"Naco,"** to him who fairly uses it **will open the door to increasing trade and profit.**

J. J. Ryan.

Inappropriate.

The captain was explaining what would be done in case of accident.

"And should the ship strike a rock," he continued, "we'd burn red fire and send up rockets."

"But wouldn't that be a rather unusual time to celebrate, captain?" asked the tow-headed youth with the bulldog pipe.—Lippincott's.

What the Law can do to Simplify Plumbing

By Jno. K. Allen, Member of the American Society of Inspectors of Plumbing and Sanitary Engineers.

About three years ago, possibly four years ago this approaching winter, a gentleman came to Chicago from Cleveland for a conference with persons interested in the regulation of plumbing, and the project of making a model plumbing code for the city of Cleveland—talked over in a Chicago hotel room as one of the very good things if it could ever be brought about—is now an accomplished fact.

The gentleman was John Eisenmann, Code Commissioner, and he came to Chicago with the record of having drafted the most complete building code enjoyed by any city in the United States. But it had not seemed wise to endanger the passage of a structural code governing building, to which there seemed no opposition of importance, by attempting to pass a plumbing code at the same time, as there was a probability that there would be considerable opposition developed against the form of code which it seemed desirable to attempt to secure.

So it came about that after the building code was safely passed the Code Commissioner began the preparation of a plumbing code, and his visit to Chicago was for one of a number of conferences with sanitary authorities, the result of which was finally a plumbing code which stirred up all the opposition it was expected to, but which, after slight modifications, passed the Council, giving Cleveland the most comprehensive code ever enacted governing the design and construction of plumbing.

It was a fact widely regretted that Code Commissioner Eisenmann had to give up connection with the work before the code finally passed the Council; but no one desires to take from him the credit for the work he performed in blocking out and perfecting the code. It is a monument to his patient research and careful study.

The Cleveland code has many features which are unique. Perhaps its most striking characteristic is the extent to which it simplifies plumbing design. In approving this feature of the code I am aware that I shall be criticised by those of my readers who believe in the multiplicity of pipes; who would have soil pipe stacks, vent stacks, revents, back vents, etc., all with the belief that it is a good thing to complicate plumbing because it makes it more expensive. But I am not of that school. I believe

that the simpler and more inexpensive plumbing can be made—all the time bearing in mind that only high grade material and labor should be used—the more of it the consumer will buy. This is true in all other lines of merchandising, and plumbing is no exception to the laws of economics which make the fact true.

But there is still a weightier reason why plumbing should be simplified. It lies in the purpose for which plumbing is constructed, which is the removal of wastes from buildings intended for occupation. The very nature of these wastes, subject as they are to rapid decay, makes it desirable to remove them from the building as quickly and as completely as possible. In a complicated system of plumbing the removal of wastes and accompanying odors is not rapid. Hence the necessity for simplification.

I am not alone in holding this view. I believe all sanitary engineers will support me, but I will quote from but three:

Thomas S. Ainge, Sanitary Engineer, Michigan Department of Health, Lansing, Mich., in "The Sanitary Sewerage of Buildings:"

"The location of the vertical soil and water pipes will be governed largely by the location of the plumbing fixtures, and the proper location of the fixtures will obviate the use of long, horizontal runs, or a multiplicity of vertical stacks. For these reasons, the fixtures on each floor should be grouped, and be as near to each other as practicable; and the fixtures on different floors, especially those of the same kind, should be as nearly over each other, vertically, as possible."

Charles B. Ball, Chief Sanitary Inspector, Chicago Department of Health, in "Plumbing Catechism:"

"What general considerations govern the best design and running of soil, waste and vent pipes? Answer: Simplicity and directness. The lines must be as few in number as will adequately serve the fixtures and must be run as directly as possible to them. This involves, wherever possible, the placing of the fixtures on an upper floor directly above those on a lower floor, and also the grouping of fixtures in adjoining rooms on opposite sides of the common partition."

William Paul Gerhard, C. E., of New York City, in "Sanitation of Public Buildings:"

"The arrangement of the plumbing should be as simple and direct as practicable. Where the buildings are two stories or more in height, the aim of the architect in designing the floor plans should be to locate the plumbing in vertical groups, in order to reduce the number of pipe lines to a minimum. Horizontal branches should likewise be avoided as much as possible on account of the difficulty of giving a sufficient fall to the waste pipes."

In addition to these brief quotations from three good authorities, I wish to quote more extensively from Mr. Gerhard, who, in an address to a gathering of medical officers of health in Vermont made these arguments for simplified plumbing:

"1. The house drainage system should remove from the building quickly and completely all liquid wastes, including human excreta, water used for washing and bathing purposes, kitchen water, and sometimes, though not always, the storm water. The removal of the house sewage should be effected before decomposition sets in. It should be accomplished without contaminating the soil, the air or the water.

"2. A house plumbing system should be so arranged that under no circumstances will there be an escape of sewer air into any room in the building. This is accomplished by the proper and safe trapping of all outlets.

"3. Foul gases, originating in the house pipes, should be diluted, oxidized and thus rendered innocuous. The entire pipe system should be *without long dead ends,* where the air would stagnate.

"These are the three general requirements which every system must fulfill.

"I come now to some more specific advice, contained in the following *maxims*:

"1. Each building should have a *separate* connection with the street sewer.

"Large buildings may require *several* connections and these are better than one pipe of a very large size.

"2. All drain, soil, waste and vent pipes within the building and up to a point five feet outside should be of heavy cast iron pipe, with lead caulked joints, or of galvanized screw jointed pipe with recessed drainage fittings. No earthenware or tile drains should be allowed within the building.

"3. All pipe conduits for sewage should be constructed air and water tight to prevent leakage of sewage and of sewer air.

"4. All the horizontal and vertical pipes should be carried as straight as possible. Offsets on vertical vent lines should be made under 45 degrees.

"5. On horizontal lines use Y branches, not Tees, for junctions or connections.

"6. All the pipe conduits, traps, cleanouts as well as the fixtures, should be kept exposed and easily accessible for inspection or repairs.

"7. All the pipe conduits should be of *minimum* diameter, consistent with volume of sewage or waste water to be carried, because in this way the flow of water is more concentrated and the pipes are flushed out better.

"8. All pipe conduits should have good supports, good alignment and a sufficient fall.

"9. All soil and vent pipes should be extended the full size to the roof, or even enlarged at the roof to prevent closing of the pipes by hoar frost in cold climates. No pipe above the roof should be less than four inches.

"10. The number of vertical stacks in a building should be reduced to a minimum, and this can be accomplished by concentrating the plumbing work and making branches as short as possible.

"11. Reduce the number of fixtures and arrange them as much as possible, and as much as is consistent with convenient use, in vertical groups. A single soil pipe may answer for the fixtures on a number of floors.

"12. Place plumbing fixtures only in ventilated rooms and confine the plumbing to bath and toilet rooms, to kitchen and laundry.

"There is a question which has been brought up from time to time and that is whether it is feasible and safe to have stationary wash basins in the sleeping rooms. In general I do not advise it. I think the rules laid down by boards of health should not permit it because there is always a chance of some joints opening up and letting sewer air enter the apartment. Personally, I should not hesitate to have such a basin in my sleeping room, but I should give the plumbing very frequent inspections and tests. With regard to the location of the bathtub and the water closet I would say it is a general American custom to put these in the same room, whereas in English houses and in many of those in Continental cities the water closet is placed in a separate apartment. For a great many years I have spoken and written against this common American practice which I consider inconvenient, particularly for the smaller houses. In these, it is, in my judgment, very much preferable that the closet and the bathtub be in separate compartments.

"13. All the plumbing fixtures should be trapped separately and safely. The trapped waste from one fixture should never pass through another trap before reaching the soil pipe or the house drain.

"14. Fixtures should be of non-absorbent material; all sharp corners should be avoided, glazed and smooth surfaces are required. Wood and porous stone should be condemned as unsuitable.

"15. Modern plumbing work dispenses entirely and properly so with the former wooden enclosures of fixtures.

"16. There are certain pipes in every house which should never be connected to a sewer or soil pipe, for instance the overflow pipe from the house tank and in particular the wastes from refrigerators or ice boxes. These should drip over a trapped and water-supplied sink.

"17. Avoid having in the house any fixture which is not in daily use, as the evaporation of water will soon unseal the trap.

"18. Each plumbing fixture should be arranged to empty quickly, like a flush tank. All pipe conduits should be well flushed, and if the grade is slight, special flushing appliances for the house drain should be provided.

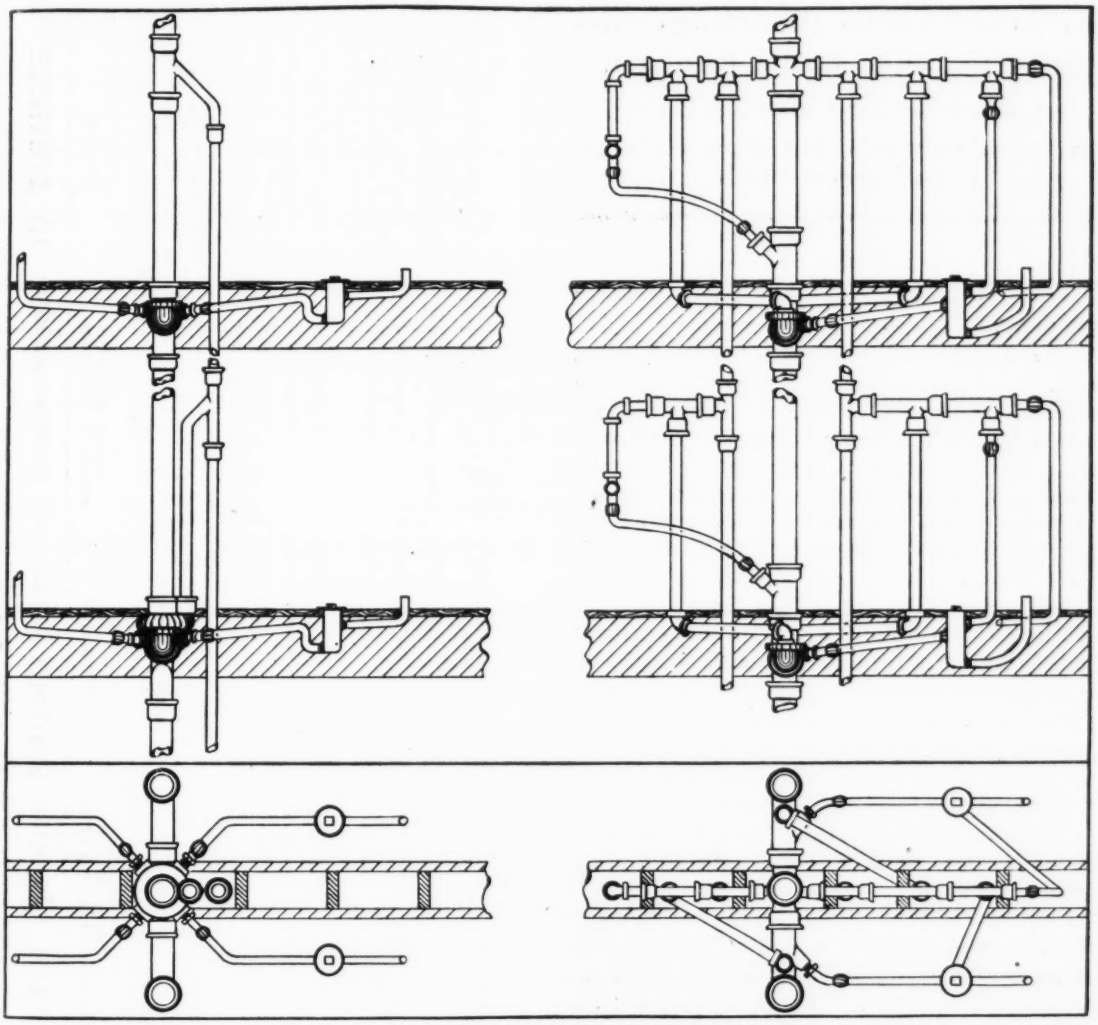
"These are the leading axioms, which I shall ask you to keep well in your mind. Note also the following *summary* of requirements.

" 1. Good and durable material.
" 2. Good workmanship.
" 3. Good supports, fall and alignment.
" 4. Proper junctions.
" 5. Direct and short runs.
" 6. Accessibility of all parts.
" 7. Safe trapping of the fixtures.
" 8. Perfect ventilation.
" 9. Powerful flushing.

An attractive corner in the up-to-date plumbing establishment of Joughin Bros., at Tampa, Florida. From photograph secured by our Mr. Winslow on his recent journey through that part of the country.

"10. Instant removal of all wastes from the building.
"11. Noiselessness in action.
"12. Protection against freezing of the plumbing.
"13. Prevention of unnecessary waste of water.

readers may understand how the code affects plumbing design and construction, I have had some drawings prepared which will illustrate the code's provisions. These will be published from time to time. I will introduce them, however, by a striking



Sketch showing how the new Cleveland plumbing code has simplified plumbing work. The drawing at the right shows the construction of double bathroom plumbing on two floors required in Cleveland before the new code was adopted. The drawing at the left shows the same construction as allowed by the new code.

"14. Simplicity of arrangement, concentration of work.
"15. Avoidance of all complicated mechanical apparatus."

To the extent then that the Cleveland code simplifies plumbing design without impairing efficiency, it should be a subject of interest to those who desire better plumbing work. In order that my sketch showing to what degree simplification of plumbing can take place under the code's provisions. At the right side of the sketch is shown the construction for a double bath-room on two floors as required before the code was adopted. At the left is shown the construction allowed under the new code.

I believe this sketch will call forth an unusual

amount of comment from the readers of "Domestic Engineering," and whether agreeing or disagreeing with the practice as shown I will be glad to have your comments.

An Analysis of the Plumbing Codes of Thirty-five of the Principal Cities in the United States*

By Thomas S. Ainge, Sanitary Engineer, Michigan Department of Health.

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Sewers Under Buildings.

The specifications for sewers under buildings are shown in Exhibit VI.

Material.—It is gratifying to note that in but eight of the cities whose codes are under consideration is earthenware or cement permitted as the material for sewers under buildings. In three of these, earthenware may only be used under certain conditions, but the wisdom of permitting the use of such a fragile material for a sewer under any building, no matter what the conditions may be, is not apparent.

It is generally understood that extra heavy cast iron is the only material which can be considered suitable for the construction of sewers under buildings, and this material is specified in twenty-seven of the codes. In three of the codes, "cast iron" is specified; in two, wrought iron; in two, "iron"; and in one, "good soil pipe." In one code (Louisville), "Standard" cast iron may be used for buildings under three stories in height, but the wisdom of permitting the use of a light-weight pipe under ground under any conditions is not apparent.

Protection of Sewers Under Walls.—As the codes refer, principally, to work in new buildings, and as the walls of such buildings are very liable to settle after completion, it is very essential that the walls be not permitted to settle on the top of any sewer which may pass through or under them. This protection is usually afforded by a relieving arch, or other proper opening, and such protection is specified in fourteen of the codes. In one code, the nature of the required protection is not described, and in twenty, no protection whatever is specified.

Main Trap.—The wisdom of providing a main trap for preventing the passage of air from the

*The first two installments in this series of articles were published in the issues of May 29 and September 18, 1909. These back numbers can be obtained for 10 cents a copy.

EXHIBIT VI.—Specifications for sewers UNDER buildings (Concluded.)

City.	Material.	Protection of Sewers Under Walls.	Main Trap Required.	Size and Location of Fresh Air Inlet	Access Openings.
Rochester, N. Y.	Cast or galvanized wrought iron. Stoneware vitrified pipes may be used where there is no cellar and drain is covered with at least one and one-half feet of earth.	Relieving arch.	To be omitted where there is a separate system of sewers for sewage only. For one-story buildings only.	Fully specified.	At least two—one at main trap and one at end of drain or near to soil pipe.
St. Joseph, Mo.	"Good soil pipe."	Not specified.	Yes.	Not fully specified.	At end of drain and at main trap, if any.
St. Louis, Mo.	"Iron."	Not specified.	Yes.	Fully specified.	At main trap, at foot of each soil pipe stack, and at each change of direction.
St. Paul, Minn.	Extra heavy cast iron.	Not specified.	Not specified.	Not specified.	Where required.
San Francisco, Cal.	Extra heavy cast iron.	Not specified.	Yes.	Fully specified.	At end of each main and branch drain.
Scranton, Pa.	Extra heavy cast iron.	Relieving arch.	Yes.	Fully specified.	At main trap only.
Syracuse, N. Y.	Extra heavy cast iron.	Not specified.	Yes.	Sizes not fully specified. Location fully specified.	At ends of horizontal lines and at foot of each stack.
Toledo, O.	Extra heavy cast iron or glazed earthenware.	Arch, or other proper opening.	Yes but omitted in certain cases.	Fully specified.	Where required.
Washington, D. C.	Extra heavy cast iron.	Relieving arch, or pipe, two inches larger than drain, built into the wall.	Yes.	Fully specified.	At main trap only.
Worcester, Mass.	Extra heavy cast iron.	Not specified.	Yes.	Fully specified.	At every right angle turn and at main trap.

EXHIBIT VI.—Specifications for sewers UNDER buildings.

CITY.	MATERIAL.	Protection of Sewers Under Walls.	Main Trap Required.	Size and Location of Fresh-air Inlet.	Access Openings.
Allegheny, Pa.	Extra heavy cast iron.	Relieving arch required.	Yes.	To be furnished with "an automatic device;" sizes properly specified.	At main trap only.
Baltimore, Md.	Extra heavy cast or wrought iron, brass, or lead.	Relieving arch required.	Yes.	Fully specified.	At foot of each stack of soil or waste pipe.
Boston, Mass.	Extra heavy cast iron.	Provided for, but not described.	Not specified.	Not specified.	Where the drain leaves the building.
Buffalo, N. Y.	Extra heavy cast iron.	Not specified.	Yes.	Size specified. Location not fully described.	Not specified.
Chicago, Ill.	Vitrified tile.	Arched or other proper opening.	Not permitted.	Not permitted.	At the foot of each soil or waste pipe.
Cincinnati, O.	Vitrified stoneware, cast iron, or other approved material.	Not specified.	Yes.	Fully specified for old buildings. Partly specified for new buildings.	At main trap only.
Columbus, O.	Extra heavy cast iron.	Relieving arch or lintel.	Not permitted.	Not permitted.	At least two to be provided.
Denver, Colo.	Extra heavy cast iron.	Not specified.	Not specified.	Not specified.	To be provided when practicable.
Detroit, Mich.	Extra heavy cast iron.	Relieving arch.	Yes.	Fully specified.	At foot of vertical stacks and at every right angle change of direction.
Fall River, Mass.	"Extra heavy pipe."	Not specified.	Yes.	But one size specified, viz. 4". Location fully specified.	To such number as may be required by the Plumbing Inspector or Board of Health.
Indianapolis, Ind.	Extra heavy cast iron.	Not specified.	Yes.	Size fully specified. Location not fully specified.	At all angles near exit of drain from building; at ends of all drains or branch drains and at main trap.
Jersey City, N. J.	Extra heavy cast iron.	Relieving arch.	Yes.	Fully specified.	To be placed where required.
Kansas City, Mo.	Cast iron.	Not specified.	Yes.	Minimum size 2". To be extended above roof.	To be placed on street side of main trap.
Louisville, Ky.	For buildings under three stories, "Standard" cast iron; for buildings three stories and over, extra heavy cast iron.	Not specified.	Not specified.	Not specified.	Not specified.
Milwaukee, Wis.	Where drain has less than 18" of covering it must be of extra heavy cast iron; otherwise of cement or vitrified stoneware.	Not specified.	Yes.	To be 2" diameter. Location fully specified.	To be placed at main trap.
Minneapolis, Minn.	Extra heavy cast iron.	Not specified.	Not specified.	Not specified.	At ends of drain and branch drains.
Newark, N. J.	Extra heavy cast iron.	Not specified.	Yes.	Fully specified.	Where required, but not more than 20' apart.
New Haven, Conn.	Extra heavy cast iron or vitrified clay.	Not specified.	Yes.	Fully specified.	At main trap only.
New Orleans, La.	Extra heavy cast iron, and, under certain conditions, salt-glazed earthenware may be used.	Arch or lintel.	Optional with owner.	Fully specified.	At main trap, at base of each stack, at each change in direction, and at ends of horizontal lines.
New York, N. Y.	Extra heavy cast iron.	Arched or other proper opening.	Yes.	Not fully specified.	Where required.
Omaha, Neb.	Extra heavy cast iron.	Not specified.	Not specified.	Not specified.	At end of horizontal line and at foot of each stack.
Paterson, N. J.	Extra heavy cast iron.	Not specified.	Apparently optional.	Fully specified.	Where required.
Philadelphia, Pa.	Extra heavy cast iron.	Relieving arch.	Yes.	Fully specified.	Just inside foundation wall.
Pittsburg, Pa.	Extra heavy cast iron.	Relieving arch.	Yes.	Fully specified.	At main trap only.
Providence, R. I.	Iron or vitrified clay.	Not specified.	Yes.	Fully specified	At main trap when inside the building.

main sewer to the sewer of a building has been called in question, particularly in recent years, by many whose opinions upon matters of this kind are worthy of serious consideration. There are conditions under which the omission of a main trap may be considered a distinct advantage; there are also conditions under which a main trap is claimed to be a necessity, as in the case of low buildings and of buildings of a lower height than those abutting on same. That the framers of the codes under consideration are inclined to give the public the benefit of any doubt there may be in the matter, is indicated by the fact that twenty-three of the thirty-five codes require the provision of a main trap for every building, and two, under certain conditions only. In two codes, the matter is apparently left to the discretion of the owner of the building; in two, the trap is not permitted; and in six, nothing is said about the main trap.

Fresh-Air Inlet.—The provision of a main trap presupposes the provision of a fresh-air inlet, of a size proportionate to the size of the sewer and properly located with respect to doors and windows of the building, and yet, in the case of those codes in which a main trap is specified, the size of the fresh-air inlet is not properly specified in seven instances and the location is not properly specified in five instances. In two codes (Kansas City and Milwaukee), the absurdly small diameter of 2 inches is permitted for the fresh-air inlet.

Access Openings.—Stoppages are liable to occur in any sewer, and access openings should be provided at such points as will enable cleaning tools to be passed through every portion of the sewer. This provision is, apparently, made in but eleven of the codes. In fourteen codes, one or more such openings are to be placed wherever required; and in two, no provision whatever seems to have been made for such openings.

To be continued. All rights of republication reserved.

Once Was Enough.

Magistrate (discharging prisoner)—"Now, then, I would advise you to keep away from bad company."

Prisoner (feelingly)—"Thank you, sir. You won't see me here again."—Lippincott's.

Two of a Kind.

A distinguished specialist in Washington was called upon a week or two ago by an eminent government official for treatment for a nervous ailment.

"The first thing you must do," said the physician, after an examination, "is to give up both smoking and drinking."

Whereupon the eminent official became real peevish, "Look here, doctor," he burst out, "now you're talking just like my wife."—Lippincott's Magazine.

Controlling the Heat

By Charles B. Starkey.

Any person hates to see the coal pile melt away, like butter on pancakes upon a frosty morning.

Down in Yankeeland they sift the ashes and burn the cinders with a "saving sense" that they are making money; a sort of a penny saved, penny earned spirit, which is commendable, at times, but blamed hard on the person who runs the sifter.

In a job where the ashes from the heater are half full of coal poorly consumed there is something radically wrong. This may be due to several different reasons:

First, the person who is running the apparatus may not be on to the job.

Second, the coal may be of poor quality.

Third, the job may not be properly proportioned or put together in the manner to get the best and most economical results.

One great difficulty experienced in running heating apparatus is that *some one is always monkeying with the drafts.* This lack of proper means to adjust dampers is a source of constant annoyance to the occupants and the result is that the house is hot and cold by spells, and also the fire in the heater gets much unnecessary attention. Therefore, during the heating season much coal is wasted by continually poking the fire, and then *"killing it" when the rooms become too hot.*

The necessity for some other, and more accurate means of controlling the heating apparatus is at once apparent; but many fitters hesitate to mention such means to their customers because (*whisper now*) these fitters do not know how to intall the apparatus no matter if it is the *simplest ever.*

Now, when this business of regulating the dampers on the heating apparatus first started, the principal means employed was to use the power developed by the heater itself to furnish the automatic control of the dampers. While this means met with a certain amount of success, it has been found that another manner could be employed in bringing about more delicate results.

The temperature of the surrounding air is made the factor of control in these later devices, instead of the number of pounds of steam carried upon the boiler.

In general, it may be stated that these temperature regulators are so constructed that some particular part or parts will move when the tempera-

ture of the surrounding air changes from the point at which the apparatus may be set.

Now, the motion thus acquired is used, by various different patented means, to control the dampers or valves, either opening or shutting them, as the case may require, and thus increase or diminish the supply of heat as the necessity may demand, it being understood, of course, that a sufficient amount of fuel is placed in the apparatus to back up the demand of the temperature regulator.

The temperature regulator can not *make coal, but it can save a mighty lot of it in the course of one season,* as has been demonstrated at different times in various places.

Different means are taken to make the heat regulators perform their duties. Power is generated by means of the expansion and contraction of metallic bodies, or by a change in pressure, due to the vaporizing of some liquid, which may boil at an exceedingly low temperature, or by electricity generated from batteries or by clock work, water, compressed air, etc., etc.

In apparatus of the nature of temperature regulators it becomes apparent that each room can be adjusted to a degree of heat to suit the individual who occupies the room. The dial is on the wall and can be set to any reasonable degree of heat required, generally from forty or fifty degrees up to one hundred.

The value of this is at once seen in a large hotel. One guest may require his room to be heated to a temperature of 65 degrees Far., while his neighbor across the hall may desire a temperature of 80 degrees.

Now, with a first-class installation of temperature regulators, each of these parties can be made happy, and the employees of the hotel not obliged to run their legs off in turning off radiators, and then turning them on again, to satisfy the different desires for heat made by the various guests.

Aside from hotels and office buildings, where the tenants demand, and are entitled to, a reasonably reliable temperature, these appliances are of great service in public schools, colleges, churches, and hospitals.

It has been demonstrated that it takes but a short time for a temperature regulator to pay for itself by the amount of coal it will save over the ordinary method of running the dampers by hand. The amount of coal used in various buildings of the same size and exposure has been recorded, and when temperature regulator systems were applied it was found that the amount saved ranged up to as high as *one-third.* And in some places the saving was anywhere from fifteen to twenty-five per cent. It seems, therefore, to have been established beyond doubt that it is more satisfactory and cheaper to maintain a uniform temperature, which will utilize the heat to better advantage and give a more thorough combustion of the fuel, than to try to run the system in the old hit-or-miss fashion of years ago.

Peat Predicted to Become an Important Auxiliary Fuel

A number of cities and towns in the United States may obtain their light, heat and power direct from peat bogs in the near future. The statement is made by federal experts that millions of dollars worth of fuel lies undeveloped in the swamps and bogs of the country, awaiting only the genius and business ability of the American before it drives the wheels of progress. Its value, on a basis of $3 a ton, roughly guessed at by experts of the Geological Survey, who have been studying the peat deposits for some time, is more than thirty-eight billion dollars—more money than is represented in all the property, stock, implements and buildings owned by the farmers of the United States.

With the coal supply being used at a tremendous rate, peat is expected to become a most important auxiliary fuel and one that will prolong the life of the coal itself. An important fact which leads the experts to believe that peat will soon come into quite general use in certain parts of the country is that it is as a rule found in quantities in regions far removed from the coal fields, so far that the cost of transporting the coal amounts to several times the cost of the fuel itself at the mines.

The states containing the greatest amount of peat are the eastern Dakotas, Minnesota, Wisconsin, Michigan, northern Iowa, Illinois, Indiana, Ohio, New York, the New England States, New Jersey, portions of Virginia, North and South Carolina, Georgia and Florida.

A thorough investigation of the peat resources is now being undertaken by the Geological Survey, not only as to the amount of peat and its location, but also its use. Prof. Charles A. Davis, of the Technologic Branch, has general charge of the investigations, while Prof. Robert H. Fernald, consulting engineer in charge of gas producer tests, is endeavoring to find the value of peat as a fuel for heating and power purposes. The latter but recently returned from a trip to Europe, where he investigated the uses of peat and found the older countries much farther advanced along this line than the United States. Professor Fernald returns with the belief that peat will soon be extensively used in the United States. In Ireland he found that peat was being used generally for domestic purposes, but not by the manufacturing establishments. "Sweden is dotted with peat deposits and its bogs are now being extensively utilized for power purposes," says Professor

Fernald. "During the last eight years new bogs have been constantly added to the list until bogs producing from 2,000 to 5,000 tons of dry peat for power purposes per year are found on every hand. The consulting engineers who have installed some of these plants are unquestionably working in the right direction, placing the power plant directly in the peat bog and transmitting the electric current to the surrounding towns. The current is being used for manufacturing purposes and also for lighting both the streets and houses. The installation of the power plant in the bog or at the mine has been advocated in this country by the Technologic Branch of the Survey for installation of several thousand horse-power only, yet this principle is applied in Sweden to small plants and may be feasible in certain parts of this country.

"Another development in the line of peat industry which promises splendid returns is the use of peat in by-product recovery gas plants. From these plants both gas for power and sulphate of ammonia can be obtained in commercially paying quantities. Both the utilization of peat for producer gas and for the recovery of sulphate of ammonia are perfectly feasible with American peat. Although the work done on peat at the Survey experiment plant has been limited, it has been demonstrated that gas for power can be made easily from both Florida and Massachusetts peat."

Professor Davis, who has just issued jointly with Edson A. Bastin a bulletin on peat, is optimistic on the future of peat, yet he believes the development of the industry should be accompanied by great caution.

"The operation of a gas engine at the experiment plant on peat in one or two tests has shown that this fuel is but little inferior to many grades of soft coal now on the market and superior to some in the quantity of power gas produced," says Professor Davis. "I believe the day is coming soon when cities located near the peat bogs and away from the coal fields will obtain their power and light from peat. I understand that Florida is to have a power plant soon that will use peat as fuel and will transmit the electricity to Jacksonville.

"In the development of this industry, however, it must be remembered that peat contains from 85 to 90 per cent water as it comes from the bogs. All but 15 or 20 per cent can be dried out by exposure of the peat to the air. In burning peat in gas producers to make power gas, this peat will burn successfully with 40 per cent moisture, which is impossible in a furnace.

"The burning of peat for power, heat or light is but one of its many uses. The by-products of great value include coke, illuminating oils, lubricating oils, paraffin wax, phenol, asphalt, wood alcohol, acetic acid, ammonium sulphate and combustible gases of good fuel value. If used for fuel gas there is enough nitrogen stored in the peat resources of the country to supply six hundred and forty-four million tons with a value of thirty-six billion dollars in addition to the gas. Peat is capable of furnishing potential substitutes for wood in various departments of industry, and may relieve to a considerable extent the drain upon the vanishing forests. Paper is now being made from peat in Michigan. Possibly five per cent of the total peat in the United States, or 644,400,000 tons, is suitable for the manufacture of coarse paper and pasteboard, which will reduce the consumption of wood by whatever amount it displaces wood-pulp in the manufacture of such articles."

A Fews Gentle Jolts on Selling Plumbing Goods

By Phoenix.

Once upon a time I walked into the front parlor of a plumbing shop for the purpose of seeing about some repairs regarding my bath room and I met with an unusual reception. The proprietor of the shop was apparantly busy at his desk.

I don't know whether or not he was figuring up a plan, or his income, or how to make "strap and buckle meet."

What I do know is that he never looked up or paid the slightest attention to my entrance, but sat at his desk like a big ham and the general "grumpiness" just seemed to radiate directly from his person. The stenographer and bookkeeper were likewise mighty busy. Perhaps the old man had been "stirring things up," and that was the reason why a general air of gloom seemed to hang around that vicinity for the time being.

At any rate I received neither courtesy nor attention, and after standing for a few moments to see if any one **would notice my entrance, I departed,** and obtained the information I desired in another shop, where the owner had sense enough to treat his customers and callers with **common civility.** That man who could not at least take the time to look up and say, "Good morning," or perhaps turn around and smile must have had a chronic grouch that was wonderful to behold. He was playing at business and working under a big handicap. Such a man would not last very long in any grocery store at a $5 a week job selling prunes.

Common politeness is one of the first lessons that any salesman should learn, and he can not learn it any too quickly.

Now, it so happend that another friend of mine had asked me to recommend a first-class plumber who could put in a bathroom in a sanitary manner **and still remain upon speaking terms with the customer after the job was done.**

Perhaps this grouchy individual would do a good job all right, but you can wager that there would be grave doubts and also that he did not receive honorable mention in this case.

There are several points that any master plumber would do well to keep in mind, and here are a few of them:

1. Treat the customers in such a manner that they will see you. Have an interest in their wants, when they can feel that you have their needs in mind and can "make good," then they will begin to be interested in you and have confidence in your ability to attend to their necessities.

2. If you do not know your goods and stock, take a day off and learn them thoroughly. A cheap clerk in

a dry goods store would be "fired" mighty quickly if he displayed one half the ignorance of his little stock that many plumbers do several times each day in the year. Not only this, but they are even unable to find the article sought when they consult the catalogue; and many times the catalogue is lost through the carelessness of the proprietor himself. About this time the customer leaves in an utterly disgusted frame of mind and the sale, or job, is about 75 per cent lost, simply from carelessness and an indifference which could be easily remedied.

If you can not afford, or do not desire to display a full line of goods, at least have the catalogues of reliable concerns handy where you can show pictures and give quotations.

3. Try and put yourself in a frame of mind so that you will be able to see matters from the customers' point of view (at least for a short time).

This will enable you gradually to lead matters around to the true state of affairs and enable you more quickly to cause the customer to shift his (or her) ground. For instance: The customer may have decided to purchase a cheap closet. That's all right. Agree with them, but at the same time, while considering, from the customers' side of the question, that the amount they desire to invest is quite large, would it not be a good plan to see **how long that particular closet is probably going to last, and how much the general run of repairs will cost?**

Then interest the customer in other closets which cost more, **but stand the test of time** and bring this customer (who is now half convinced) to see the question from your side of the proposition.

4. Do not make loud mouthed positive statements that can not be backed up by actual evidence.

Even a man who has been in the business for twenty-five years will say, in case he makes some very startling or positive statement, "Do you doubt what I say? Well, come over to the house of Jones, and I will show **you the job actually working. Ask him** and **don't take my word for it.**

The day is rapidly passing when a "bluff game goes" in the plumbing business.

There are too many honest jobs in operation, and the customer wants to see how things work for his or her own satisfaction.

5. **In making sales avoid "knocking" the other shop.** It will take about all the time the customers can spare to "make good" on your own proposition.

Why boost the other fellow's game? A knock is a boost nine times out of ten.

The mere mention of another shop and its methods will arouse a certain amount of curiosity in the customers' mind and they will be tempted to look the matter up just to see **who is right.**

Sell good goods, for yourself, and sell them just as if there was not another shop on the face of the earth. Put your whole nerve force into the game and show the customer that **you believe and also know what you are talking about.**

6. There are hundreds of reliable, convenient, time-saving, fuel-saving, health-promoting, sanitary specialties in the market which apply to both plumbing and heating jobs.

Few master plumbers are aware of the amount of business that can be gathered in from this source until they try.

Why put off trying any longer?

Why not take a shy at the customer who stands waiting in your shop and try to sell some guaranteed specialty and make him glad, or make anybody glad, even yourself?

Questions and Answers

This department is maintained for the use of every reader of "Domestic Engineering." We solicit problems from you and will give them our best attention. In stating your questions please give all of the facts as clearly as possible and when necessary accompany your question with a correct layout of the job.

TO CLEAN OUT A TRAP ON THE KITCHEN SINK.

221. Louisville, Ky.—To the Editor of "Domestic Engineering." Sir: Many times the trap on a sink and the pipe beyond are stopped up with grease. What can be done as a first easy remedy to clean this out. **S.**

Sometimes when the trap and waste are not entirely stopped, but the water from the sink runs out slowly, the grease can be made to flow away if it is heated up by running several gallons of boiling water through the trap and waste.

If this fails to clean out the trap, run sal-soda or strong lye into the pipe. This will, in a short time, eat away the grease so that it may be washed away.

THE HEATING VALUE OF CRUDE OIL.

220. Syracuse, N. Y.—To the Editor of "Domestic Engineering." Sir: I have at various times read of the use of crude oil as fuel. Can you tell me any facts about its value as compared with coal and also where it is so used. **D.**

Tests to find out the relative heating value of crude oil and local coal have been made in the State of California, in which it was found that one net ton of coal was equivalent to 94.5 gallons of oil. We believe that oil is used in the place of coal in some of the boilers in the waterworks system in New Orleans, La., and on certain railway locomotives in the West and on some coasting vessels along the Pacific coast.

HOW TO MAKE A LOOSE FITTING HOLD STEAM OR WATER PRESSURE.

225. San Francisco, Calif.—To the Editor of "Domestic Engineering." Sir: I have found in the course of my work that the ell, tees and more particularly the bushings are many times tapped out too deeply, which gives very poor results when they are used.

They screw way up, and even at that leak badly and have to be removed, or else the fitter or plumber must spend hours and hours in trying to calk the leaks which are more than liable to break out any time in the future and cause a big kick from the owner.

Can you or Mr. Phoenix, whose articles I am read-

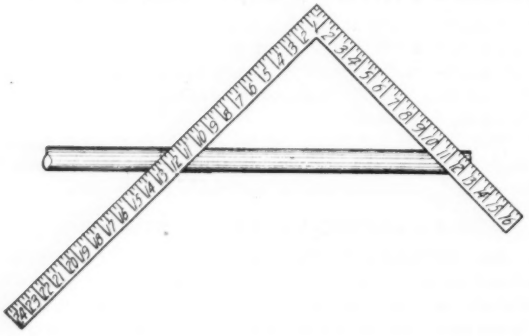
ing with much profit, suggest any remedy for the case? If so, it will be greatly appreciated. **Frisco.**

I take great pleasure in answering this question, sent me, as it represents a difficulty met with every day by hundreds of plumbers and fitters all over the country, and it is easier and surer than stepping barefooted on a tack in the dark to fix these fittings so they will not leak, at least 90 per cent of them.

For instance, if you have an ell that screws way up on a piece of pipe, and you are dead sure that it will leak, remove the ell, take a piece of candle wicking, unravel it and using two or three strands wind it into the threads and then screw the fitting carefully back upon the pipe. A little experience and care will show one about how much candle wicking to apply each time to the particular ell, tee, bushing, plug, etc., that is used. **Phoenix.**

CLAIMS HE HAS SIMPLER RULE.

227. Norwich, Conn.—To the Editor of "Domestic Engineering." Sir: My attention was drawn to your department of "Questions and Answers" by a diagram and contribution styled "The Most Simple Rule Ever Published for Finding 45 Degree Measurements." I would like to offer for publication something more simple than the rule given by "Phoenix," said to require only a knowledge of the multiplication table, and my rule requires neither multiplication nor division.



How to make 45° measurement. From sketch by John Troland.

As in the given diagram let the desired effect be 12 inches (or any other length, even including fractions of an inch).

Rule.—Lay the common steel square on the pipe to be cut, touching the two points 12-12, and you have the accurate length from center to center. Mark off allowance for the ells and cut at that mark.

If the offset required be of a length beyond the span of the square, say 25 inches, mark once from the numbers 12 to 12, and then 13 to 13, or take the numbers 15 to 15 and then 10 to 10, or two times 12½ to 12½ and you have it. The result will be the same.

Besides being easy and quick, this rule has the virtue of being mathematically correct.

The rule of Phoenix is only approximate, for it is not the diagonal of a 12-inch square. Should his offset be required 12 feet instead of 12 inches, the disparity would be considerable, because it would be multiplied 12 times. With my method, repeating the measurement 12 times gives the exact diagonal of a 12-foot offset, without any computation whatever—we need not even know its length. **John Troland.**

HOW ABOUT HEATING BY ELECTRICITY.

223. Boston, Mass.—To the Editor of Domestic Engineering." Sir: Can you give me any information regarding the economy of electrical heating as compared with steam heating. An early answer in the columns of "Questions and Answers" would be very much appreciated. **Economy.**

We have investigated this question from data at hand and are able to state the following though not vouching for its strict accuracy. Some of the electrical experts probably have much more extended information, obtained from their daily practice, than the facts which we are able to present.

This question would seem to hinge upon the number of heat units utilized. If we admit that a pound of good coal contains 13,000 heat units, it has been estimated that, in a good direct steam heating job we can utilize, on the average, about 60 per cent of the 13,000 heat units, or 7,800 heat units. Now, it is stated that when the problem is worked out by electricity, we would receive only about 636 heat units from the same amount of coal, which by the use of steam heating produces 7,800 heat units. In other words, it would seem that steam would deliver nearly twelve and one-half times more heat units than electricity, when coal was used to produce the results.

However, the question of cheapness may be solved, when electricity developed by water power becomes more common throughout the country than it now is.

WHERE CAN I FIND OUT ABOUT AIR PRESSURE TANKS.

224. Grand Rapids, Mich.—To the Editor of "Domestic Engineering." Sir: A customer of mine intends building a country home with all modern improvements, but does not want a water tank in attic to supply his plumbing fixtures with water. Will you recommend some system that does not require a tank and mention some one that understands the installation of same. My customer insists that there is a way of doing the job without a tank in the attic or a hydraulic ram.

E. E. B.

We desire to say that in our advertising pages information will from time to time be found from different firms who sell air pressure systems for independent water works systems. Also in the issue of "Domestic Engineering," published on Sept. 18, 1909, will be found a most interesting article by "Phoenix" entitled "A Yankee Farmer's Modern Home," in which are just the facts one needs to read. Look up this article, which will give you the desired information.

INFECTIONS OF RAIN WATER IN CISTERNS BY OVERFLOWING SEWAGE.

Thos. S. Ainge, Sanitary Engineer for the Michigan State Board of Health, communicates to us the following statement: "The attention of this Department was recently called to two severe outbreaks of typhoid

fever, in this State, in which infected cistern water was given as the source of infection. The possibility of infection of rain water supplies is somewhat remote, because, as ordinarily constructed, the entrance to a cistern of sewage could only take place by way of the cistern overflow, and then only during a complete stoppage in the sewer into which the overflow discharged. There is, however, a nearly constant danger to be apprehended from many cisterns located in the basements of buildings and which have overflow connection with sewers, viz., the reduction, by evaporation, of the water seals of the traps of such overflows to such an extent as to permit of the passage of sewer air to the buildings. This danger is, usually, greater in the winter season, because little, if any, water will overflow from the cisterns during the coldest months, and the necessary and periodical refilling of the traps with water will not often be carried out by the householder. Again, the traps of many cistern overflows are concealed so that their exact location is not known, and the pouring of water into the openings which form the overflows, for the purpose of refilling the traps, is not always practicable. For the purpose of rendering impossible the passage of sewer air into a building in the manner indicated, there should be complete disconnection of the overflow from the sewer, that is, the overflow should be made to discharge over a trap in plain sight and set in and somewhat lower than the floor of the basement; and at such times as little or no water is discharged on to the floor, or overflows from the cistern, the normal level of the water seal should be maintained by the regular and frequent addition of water to the trap. In a building having a sink into which only clean water is discharged, or in which there is a drip tray from a drinking fountain, the waste pipe from such sink, or tray, should be made to discharge over the trap of the cistern overflow, if any, and thus ensure the permanency of the water seal."

The Advertising Game

Its a fierce game in which some of the players are reckless and lose money, but the wiser heads know the value of advertising and will appreciate these hints on its use.

Special Editions Thought Unwise.—W. D. Dryer, president of W. D. Dryer Co., writes in the Trade Journal Advertiser that in the end it is not a matter of much doubt as to which class of publication wins the greater success—the one addicted to specials or the one that puts its best efforts into its regular issues and does not pound its advertisers for increased space or even a higher rate in an exceptional issue.

"Advertisers are waking up to a realization that it is up to the publisher to do his best all the time, and that when he puts forth a very good number, even if it is called a special, he proves that his regular issues are not as good as he could make them, and furthermore, these regular issues suffer by comparison with the occasional well-printed, meaty number.

"The special number, nevertheless, dies very hard, and it is really remarkable to what extreme lengths publishers will go to get business into these occasional outbursts."

Convention Numbers of Little Use. A writer in the Trade Journal Advertiser, on the habit some journals have of getting out convention specials, dailies, etc., says: "An important consideration to bear in mind regarding retailers conventions is that they furnish the opportunity for manufacturers or jobbers to meet their actual and possible customers in one place and when they are mainly on a special errand. An ad in the convention number of the trade paper is not so likely to impress them at that time as is the presence of one or more representatives of those from whom they buy."

Keyed Advertisements.—Henry Harrison Suplee, president of Cassier's Magazine, says:

"There is doubtless some advantage in using a carefully-planned and closely-watched keying system; that is, for certain mediums and for some kinds of merchandise, but it is extremely difficult to draw any very definite conclusions from a keyed advertisement. This follows from the reason that, in the very great majority of cases, the inquirer does not have the advertisement before him at the time of writing.

"He may be attracted by the substance or the manner of the advertisement; the impression is made, the attention arrested, but unless he is in immediate need of the article, or is at that very moment in the market, he simply remembers the advertisement, and has the name and general address impressed upon him for future use or reference. When, some time afterward, he gets to the point, he remembers that he has seen the advertisement, and he may write, using as much of the address as he remembers, or he may look it up among the trade papers in his office, and very likely find it in some entirely different publication from the one which first impressed him.

"It must also be remembered that the large purchaser seldom writes the letter of inquiry himself. However much he may have been impressed by an advertisement, he simply mentions it to the assistant or associate who writes for the information, prices, or other data, and thus the probability of any reference to the key appearing in the inquiry is wholly precluded. The inquiries from big purchasers, the ones which mean business, and toward the attainment of which the advertising campaign is principally conducted, fall almost wholly in this class, while the amateur who wishes to add to his collection of trade catalogues, or the apprentice with a fondness for shop publications, will observe most carefully the instructions as to addressing, etc., although far from being an inquirer of any value.

"Such being the case, it is evident that the advertiser who attempts to draw any positive conclusions as to the value of an advertising medium by using a keying system is apt to be deceived, and may discard a paper which has really done him much good, and possibly credit a journal with results to which it is not entitled."

PLUMBING LEGISLATION

WRIT OF MANDAMUS ASKED AGAINST CITY COUNCIL FOR PLUMBING ORDINANCE.

Cairo, Ill.—An effort is to be made to compel the mayor and city council to adopt an ordinance regulating plumbers and plumbing in this city. The movement is headed by James Curry, representing the union plumbers, who have instituted proceedings in the circuit court in the nature of a petition praying for a writ of mandamus to compel the mayor and city council to frame and adopt such an ordinance. Last week the mayor and every member of the council was called upon by a deputy sheriff and served with the following notice:

"State of Illinois, Alexander County, ss.—The People of the State of Illinois to the Sheriff of said County—Greeting: We command you to summon the Mayor and City Council of Cairo to appear before the Circuit Court of said County of Alexander on the first day of the next term thereof, to be holden at the court house in Cairo, on the 11th day of October, 1909, to answer unto the People of the State of Illinois at the relation of James Curry in a petition for writ of mandamus. And have you then and there this writ with an endorsement thereon, in what manner you shall have executed the same. (Seal) Alfred Brown, Clerk."

Some months ago the union plumbers, headed by Mr. Curry, submitted an ordinance to the mayor and city council asking that it be passed. It was a carefully drawn document following closely the state law upon the subject, and covering every detail of the plumbing business. It specified exactly in what manner plumbing of all kinds must be done, imposing varying penalties for failure to comply with its terms; and it called for the appointment of an inspector whose duty it shall be to see that the law is obeyed. The ordinance was a large document, and when it was presented the clerk was saved the trouble of reading it by a motion to lay it on the table, which was carried. The reason given for this action was that it would impose unnecessary burdens upon the people of Cairo, and that a simple measure which would meet all the needs of the people, would be prepared and adopted in due time. The matter has not been discussed in the city council since then. Mr. Curry holds that the state law makes it compulsory upon the city council to adopt such an ordinance, or to establish inspection as outlined in the ordinance he had presented.

It is understood that on the date named the defendants will appear in court by counsel and seek to prevent the issuance of the mandamus prayed for by Mr. Curry by showing a state of things that would make the issuing of such a writ out of order.

HELPS CAUSE OF SAFETY AND SANITATION.

New York, N. Y.—The New York Museum of Safety and Sanitation recently received a check for $5,000 from Mrs. Mary Baker Eddy "in appreciation of the Museum's philanthropic efforts, through the introduction of safety devices, to minimize the number of accidents due to railway travel and the use of machinery."

ASSOCIATION NEWS

RECEPTION IN A. SELDEN WALKER'S HONOR.

Newark, N. J.—The Master Plumbers' Association of this city on Thursday evening, September 30, held an informal reception in honor of one of its most esteemed members, National Vice-President A. Selden Walker. Informal it certainly was, for the association's quarters were so crowded with delegations from all over the state that there was absolutely no room left for formalities. The only badge of admittance required was a smiling face and those who appeared without this perquisite were soon obliged to put it on. Members from Montclair, Orange (East, West, North and South), West and North Hudson, Asbury Park, Morristown, and Company G, from Paterson, vied with each other to honor Mr. Walker and incidentally to cement old friendships and contract new ones for future enjoyment in and with their business competitors.

President Louis Maier, of the local association, managed to obtain order and introduced as master of ceremonies for the evening the ever-reliable Ira Budd, past president of the state and local associations, and past master in the art of making every one feel at home and in cultivating "the smile that won't come off!"

It being evident that the tables of eatables and drinkables were very much in the way, it became necessary to demolish the obstructions. After the usual mellow tone had been acquired through a generous knife and fork exercise, the various silver-tongued orators let loose their verbal fireworks, interrupted now and then by selections on the piano and songs rendered by Professors Herz and Swick, who had been requisitioned for the occasion. Messrs. Budd and Wilson, of Newark; White, of Paterson; State President O'Neil, of Paterson; Turner, of Asbury Park; Meslar, of Morristown; Garrabrant, of Orange; Menagaux, of North Hudson; Storms, of Lackawanna, and others, each strove to voice their esteem and good wishes for the honored guest of the evening, imparting, by the way, not a little of commendation to the associations—local, state and national. Mr. Walker voiced his appreciation of the honor sought to be conferred upon him by the gathering. Telegrams and letters were read from those who were unavoidably absent. The usual quota of bon mots and stories by the members of the "Amateur Ananias Association" helped not a little to fasten on the smile so it would stay for yet a little while.

"So give as you go of your store of good cheer
And aid what way you can,
As you come and go—the onward flow
Of the fellowship of man."

H. F. Baillet.

BRITISH HEATING ENGINEERS HOLD AUTUMN MEETING.

London, England.—The Institution of Heating and Ventilating Engineers held its autumn meeting at the Institution of Mechanical Engineers, Storey's Gate, Westminster, last Tuesday, October 5. Two interesting and valuable papers were read, namely. "Fans," by Oswald Stott, of Birmingham; and "Heating of a Hospital," by F. B. Craig, of Manchester. Mr. Craig won the second prize in the recent competition conducted by the institution.

WHOLESALE PLUMBING AND HEATING NEWS

Central Supply Association to hold its next annual meeting in St. Louis October 27

Crane Co. springs surprise on Pittsburgh by stopping work on its new plant at Oakmont, Pa.

CENTRAL SUPPLY'S ANNUAL MEETING.

The Central Supply Association will hold its annual meeting at the Southern Hotel in St. Louis, Mo., on Wednesday, October 27, 1909. Arrangements have been made with the hotel management to care for members of the association, and such accommodations as may be desired wil be reserved upon reasonable notice. The executive committee will meet at the same hotel the day before, that is Tuesday, October 26th. The St. Louis members are making arrangements to extend an invitation to all members attending the St. Louis meeting to participate in a one or two days' outing at the Country Clubs, near the city, where facilities will be accorded for tennis, golf and other outdoor sports.

CRANE CO. SURPRISES PITTSBURG.

One of the greatest surprises that has ever been sprung in Pittsburgh, Pa., that vitally interested the plumbing and heating supply trade, was the one made this week by the Crane Company stating that all construction work on the new plant at Oakmont, Pa., about ten miles above Pittsburgh, had been indefinitely suspended, and that the local management and engineers had all been recalled to Chicago. Crane Company decided last year to locate a plant in that district after making a tentative agreement with the Best Manufacturing Company, which operates a large plant for the manufacture of valves and fittings at Twenty-fifth street and Allegheny Valley Railroad, Pittsburgh. The merged concerns were to be known as the Crane-Best Company, and both were to operate the plant for their respective products. However, it develops now that there was no positive agreement made between the two concerns, and that when the time came to finally close matters, there was a hitch of some kind, the exact nature of which cannot be learned at the present time. One of the officials of the Best Manufacturing Company stated that although the overtures had been made to his company by the Crane Company, providing for the merger of the plants at Pittsburgh, that his company had not invested a dollar in the erection of the new plant at Oakmont, this plant having been built entirely by the Crane Company interests, but that his company would have used this plant had the merger been finally completed. The plant has been continuously under course of construction for the past year, and the first unit of it was about completed and ready to have the machinery and other equipment installed. It would have been in shape to place in operation within a comparatively short time. The completed plant, with its equipment and acreage, was estimated to cost several million dollars. At the general offices of the Crane Co. in Chicago, it was stated that the suspension of work on the new plant had no significance, and that the action was taken only to gain time for rearrangement of plans.

EASTERN TRADE GOLF FALL TOURNAMENT.

Between thirty and forty members of the Eastern Trade Golf Association enjoyed the hospitality of the Whitemarsh Valley Country Club, Chestnut Hill, Philadelphia, Tuesday, October 5, on the occasion of the association's fall tournament. It was the association's first meet in the Quaker city and the Philadelphians proved themselves to be princes of entertainers as well as the most hospitable of hosts. Under the leadership of Charles S. Prizer, vice-president of the Abram Cox Stove Company, the Philadelphia heating trade not only provided two handsome trophies in the shape of loving cups, but also entertained the visiting players at the club house over night and at breakfast, luncheon and dinner on the day of the tournament.

It was a merry party that left New York the night before, and arriving at Chestnut Hill were carried on a fast night ride in the club automobile over the intervening two miles to the club house. Unfortunately President C. N. Brizse lost the train at New York by a hair, being detained in Newark, N. J. He had the satisfaction of reporting, however, the securing of the largest and juciest heating contract let in the Manhattan district in some time. The president's arrival at the club house on the next train was greeted with a burst of cheers, which were coupled with congratulations when the cause of his delay became known.

After a fine beefsteak dinner and a jolly evening spent in the club's cozy locker house, the guests were each assigned a private room, where every comfort had been provided for.

A glorious day greeted the players as they arose the next morning, and after a delightful breakfast, pairings were quickly made, and the first ball driven off. Before the tournament was fairly under way, the Philadelphia contingent arrived in three large busses, and joined in the play.

The regular medal play handicap of the association was played in the morning, for which there were four handsome silver cups awarded to the winners. G. F. Brown took first prize, a solid silver cup, presented by President Brizse; G. H. Chasmar was awarded Vice-President W. G. Le Compt's cup, as second prize; J. B. Garfield got third, the Philadelphia heating trades' cup, while the consolation cup, also from the Philadelphians, went to J. C. Parry. F. C. Jennings was awarded a gold medal for the lowest gross score. In the afternoon foursomes A. S. Armagnac and C. S. Prizer each took a solid silver cup.

It was undoubtedly one of the best tournament days ever enjoyed by the association. The attendance was

larger than ever before, and the visiting members were more than pleased with the hospitality of their Philadelphia hosts. The result of the day's play follow:

18-Hole Medal Play Handicap.

	Out.	In.	Gross.	Hdcp.	Net.
H. S. Martin	51	50	101	12	89
R. B. Hunt	57	55	112	20	92
A. S. Armagnac	55	52	107	12	95
F. C. Jennings	42	41	83	+2	85
C. S. Prizer	49	41	90	8	82
F. B. Oliver	57	49	106	12	94
A. H. Pearson	76	68	143	10	133
Elb. Sanborn	50	49	99	10	89
F. C. Greene	52	53	105	15	90
W. Ferguson	66	57	123	15	108
C. R. Fowler	52	58	110	15	95
C. R. Blaine	58	52	110	15	95
G. G. Brown	44	42	86	7	79
A. Maddock	71	67	138	22	116
W. G. Culbert	68	70	138	..	138
G. H. Chasmar	49	45	94	12	82
M. E. Danborth	46	48	94	5	89
C. N. Brizse	47	58	105	11	94
H. S. Haddon	52	48	100	6	94
F. B. Barrett	44	51	95	3	92
J. C. Parry	46	47	93	7	86
W. A. Speakman	50	49	99	8	91
W. G. Le Compte	56	62	118	20	98
J. M. Heatherton	68	72	140	25	115
J. B. Garfield	43	40	83	..	83
S. S. Rechefus	68	64	132	25	107

Foursomes. 18 Holes.

	Out.	In.	Gross.	Hdcp.	Net.
A. S. Armagnac and C. S. Prizer	40	43	83	8	75
F. C. Jennings and F. J. Oliver	37	43	80	+2	82
F. H. Seward and F. C. Greene	51	45	96	15	81
W. Ferguson and C. R. Blaine	51	51	102	15	87
H. S. Martin and E. W. Sanborn	49	45	94	10	84
C. R. Fowler and G. H. Chasmar	46	48	94	12	82
W. G. Le Comte and M. E. Danforth	44	45	89	5	84
R. B. Hunt and E. E. Gano	50	45	95	12	83
C. N. Brizse and J. B. Garfield	41	45	86	..	86
H. S. Haddon and F. B. Barrett	42	42	84	3	81
G. F. Brown and A. Maddock	51	41	92	4	88
W. A. Speakman and T. C. Parry	44	43	87	7	80
S. S. Rechefus and A. H. Pearson	61	59	120	10	110

NATIONAL VACUUM BUILDS NEW PLANT.

The National Vacuum Heating Company, of Marshalltown, Iowa, is building a new plant at a cost of $35,000, which will be ready for occupancy early next spring.

NOW ON WEST FORTY-SECOND STREET.

The Excel-O-Valve Company, of New York City, formerly at room 305, 2 Rector street, has moved its offices to 25 West Forty-second street, where rooms 327 and 328 have been leased.

WILL TRIPLE ITS CAPACITY.

The Cochran Pipe Wrench Mfg. Company, of Paducah, Ky., is preparing to increase the capacity of its plant so that it may produce three times the present output of the Cochran pipe wrench.

BULLARD ROOF FLANGE REORGANIZED.

The Bullard Roof Flange Company, of Tiffin, O., a business owned by the late F. W. Conradt, has been reorganized by Albert V. Conradt, of Kokomo, Ind., and the company will continue the manufacture of its specialty.

FLUSHOVALVE MOVES GENERAL OFFICES.

The Flushovalve Company has removed its executive offices from 45 West Thirty-fourth street, New York, to its factory at Tenth street and Vernon avenue, Long Island City, N. Y. The company will maintain its show rooms and city sales office at the Thirty-fourth street address.

QUOTATIONS ON RADIATORS WITHDRAWN.

The Fowler & Wolfe Mfg. Co., of Philadelphia, on October 1st issued notice to the effect that quotations heretofore made upon its radiators are withdrawn, and that revised prices will be quoted upon application.

NOW WITH HENRY A. BOGARDUS & CO.

Henry A. Bogardus & Company, of 178 East Huron street, Chicago, announce that they have secured the services of M. B. Hicks, formerly with the American Steam Gauge & Valve Mfg. Company, and that he now is connected with their sales department.

GALARD OPENS CHICAGO OFFICE.

The Galard Company, of Newark, N. J., has opened a sub office at rooms 706-709, at 204 Dearborn street, Chicago, in charge of George Peppard, who is calling the attention of the Chicago trade to his company's line of Omala finished closet seats and tanks, and brass work.

SUES FOR DIVIDENDS ON STOCK.

A. F. Gartz, formerly treasurer of the Crane Company, of Chicago, has brought suit against that company for dividends on $100,000 worth of stock in the company, from 1905 to 1909. Mr. Gartz severed his official connection with the company in 1905. The defense of the Crane Company is that the by-laws of the company set out specifically that when the holder of such stock, as Mr. Gartz owns, leaves the employ of the company he must surrender it for its par value and interest at 8 per cent for one year. Mr. Gartz, however, retained his stock and has refused to part with it.

BURLINGTON BRASS BUILDS NEW PLANT.

Burlington Brass Works, of Burlington, Wis., this week started work on a new plant, which, when completed, will double the company's capacity for the manufacture of plumbers' brass goods. The new plant was designed by S. Jacobsen, manager of the company, and will consist of a one-story brick and stone structure, 75x150 feet, with cement floor and jackknife roof. The building will be fire-proof and contain, beside the manufacturing departments, up-to-date general office and carefully constructed pattern vaults. A sprinkler system will be installed and the plant will be equipped with all the latest labor-saving devices for the economical manufacture of the company's product. It is planned to have the plant ready for occupancy in sixty days.

AMERICAN LEAD CO. STARTS OPERATION.

The American Lead Company, which was organized a short time ago in Pittsburgh, Pa., and which is controlled by interests identified with the Pittsburgh White Metal Company, has completed its new manufacturing plant at 3112-3114 Penn avenue, in that city, and has placed it in full operation after having given the entire equipment a complete test. The plant consists of but one building at present, 40x100 feet in size. The foundations of concrete support the heavy building, which is of structural steel frame construction with steel sides and a steel roof. It is entirely fireproof in every way. In this plant the com-

pany will manufacture all sizes of lead pipe from one-sixteenth of an inch in diameter to eight inches, as well as all kinds and classes of lead specialties, solders, etc. As soon as practicable, the new concern will open branch sales departments in the leading cities of the country.

STRIKE CAUSES LITTLE INCONVENIENCE.

Last Saturday the enamelers employed in the big Standard works of the Standard Sanitary Manufacturing Company on the North Side, at Pittsburg, Pa., went out on a strike as a result of their demands for an increase in wages being refused. The men, about 150 in number, are, with but a few exceptions, foreigners, and are making excellent wages, averaging between four and five dollars per day on piece work. The announcement is made by the management of the company that the strike is causing little inconvenience, and that within a very short time everything will again be running smoothly at the big plant. Already a number of the striking enamelers have announced their willingness to return to work, and all who will do so immediately will be given their old positions. Any vacancies which may still occur will then be filled with new men. John C. Reed is the manager of the Standard works, and has matters well in hand. There will be no delay occasioned in getting orders and contracts out.

DEMAND FOR MACHINERY IN SIAM.

A considerable demand for water works supplies and machinery has lately developed in Siam, according to reports in "The London and China Telegraph," and the import firms have their hands pretty full. The scheme for the establishment of a proper water supply for Bangkok having been sanctioned by the King of Siam, it is understood that tenders for a large quantity of material will be called for at the beginning of April next. As the whole supply is to be taken from Chiengrak, a place some 40 kilometers (25 miles) to the north of Bangkok, a very large quantity of piping will be required, as well as an extensive pumping plant. It is also proposed to thoroughly drain the whole city of Bangkok, but it is expected that work upon this will not be commenced until the waterworks scheme has been completed.

OBITUARY

WILLIAM D. HARTUPEE, PRESIDENT OF PITTSBURGH VALVE AND FITTINGS CO., PASSES ON.

William D. Hartupee, president of the Pittsburgh Valve & Fittings Company, of Barberton, Ohio, passed on at the Hotel Schenley, in Pittsburgh, where he made his home, on Thursday, September 23, in his fifty-fifth year. Mr. Hartupee was born in Pittsburgh and spent his entire life in that city. He was for many years one of the leading men in the glass manufacturing industry, having been connected with the Charleroi Plate Glass Company as manager, and with the Pittsburgh Plate Glass Company as chief engineer, purchasing agent, head of the manufacturing department, and vice-president. Later he organized the Pittsburgh Valve & Fittings Company, of which he was elected president, and he also was elected vice-president of the Columbia Chemical Company.

Otis R. Bandel, who conducted a plumbing business at 1607 Abbott street, Baltimore, Md., passed on at his home in that city on Sunday, September 26, in his 51st year. His wife, a sister and four brothers survive him.

Charles H. Trask, member of the plumbing firm of Trask & Royston, of 1329 University avenue, Madison, Wis., met instantaneous death Wednesday morning, September 29, by being run over by a railroad train near Lake Waubesa while on a hunting trip. Mr. Trask was born in New York state 35 years ago and came to Madison, Wis., with his parents when a boy. He had the reputation of being one of the most skilled plumbers in his state. He was formerly superintendent for William Owen in Madison and supervised for several years all the work on his large plumbing contracts. A few years ago he formed a partnership with Reuben T. Royston under the name of Trask & Royston. The firm made rapid progress and had planned to move into larger quarters at Bruen street and University avenue in the near future, and Mr. Trask also had started to build a handsome residence in the Ninth ward when death overtook him. He was a member of the Maccabees and the Eagles, and three pallbearers were chosen from each of these orders to serve at his funeral, which took place last Sunday, October 3, the 35th anniversary of his birth. He is survived by his mother, his wife and four children, two sons and two daughters.

CONVENTION DATES.

October 13, 1909.—Annual meeting of the **Eastern Supply Association,** at Hotel Astor, New York City.

October 19-22, 1909.—Thirty-seventh annual meeting of the **American Public Health Association** at Richmond, Va. Headquarters at the Jefferson Hotel.

October 27, 1909.—Annual meeting of the **Central Supply Association,** at the Southern Hotel, St. Louis, Mo.

In the Land of "Show Me." The show window of August Diestelhorst & Co.'s plumbing establishment at 2016 East Grand avenue, St. Louis, Mo. The gentlemen in the picture are August Diestelhorst, the proprietor, and a representative of the Wolverine Brass Works, Grand Rapids, Mich.

IRON AND STEEL TRADES SHOW GREAT IMPROVEMENT

Copper produced at a heavy rate keeps price at a low point in spite of large consumption

Demand for lead ore at low ebb several large buyers remaining out of the market

NEW RECORDS MADE IN PIG IRON PRODUCTION.

New York, N. Y.—Astounding as is the rush of pig iron production into new records in the last few months, it is the promise of still greater outputs in the near future which is fairly staggering, says "The Iron Age." The pig iron statistics for September show a record production of coke and anthracite iron of 2,385,206 gross tons in thirty days, as compared with 2,248,930 tons in the thirty-one days of August. Yet this does not measure the progress made. The steel companies made in September 1,660,839 tons, which includes 1,156,406 tons of the make of the Steel corporation, whose total September output of all grades of pig iron, including foundry, reached the record of 1,184,370 tons. The Steel corporation attained a record also in steel production in September, the total being 1,302,074 tons of ingots. The whole industry is under tremendous pressure, which would be almost alarming were it not for the fact that we are approaching the season of the year when a good deal of outdoor work is suspended and actual consumption shows a tendency to shrink.

PIG IRON REACHES NEW HIGH PRICES FOR 1910 DELIVERY.

Pittsburgh, Pa.—Last week just as the wiseacres were asserting that the pace set by the pig iron market in Pittsburgh district was too fast for present industrial prospects in finished material lines, the Steel corporation interests, the railroads and the consumers of steel pipe and tubing came forward with evidences of the substantial character of the rejuvenation of the iron and steel trades. Announcements were made of price advances on sheets, tin plate, wire, steel pipe and tubing, and there was accelerated activity in rails and every branch of the iron and steel industry. Meantime, all grades of pig iron held firmly, and new high points were established in sales of foundry and basic irons for 1910. The continued shortage of labor in the coke fields prevented the hoped for increase in production, and gave a further excuse for advancing furnace coke toward the $3 mark. Sixty furnances are in blast out of 62 in what commonly is known as the Pittsburgh district. The American Steel & Wire Company on Thursday announced an advance of ¼ of 1 cent a pound, or $2.85 cents a ton, on steel galvanized wire. The standard products of wire nails, barb and plain wire were not affected. Increased demand since the 1st of September enabled the wire company to make this advance above the prices established during the depression. On Friday the National Tube Company joined the procession by moving up the minimum quotations on wrought pipe and boiler tubes $2 a ton.

THE COPPER SITUATION.

New York, N. Y.—Trade demands are taking a great deal of copper for manufacturing purposes, and domestic consumption especially is absorbing large quantities of the red metal. New business in September was in fairly large volume, and aggregate transactions made a good showing, according to D. Houston & Co. Market values, however, were more or less irregular and Electrolytic ranged from 12⅞ and 13¼, according to the source selling. Lake prices also were divergent on account of certain urgent realizations. Speculative offerings are not so much of a feature lately, and the market is steadier on the basis of 13 and 13¼ for Electrolytic. If it were not for the heavy rate at which copper is being produced at the dealing American mining centers prices would not long remain as low as they are at present. There is an excellent domestic outlet, and home consumption cannot be far from 50,000,000 to 60,000,000 pounds per month. A noticeable increase will occur when new electrical construction projects get started. But for the present one must look ahead to expanding demands of the future to discover brighter market prospects.

NEW YORK METAL MARKET, OCTOBER 5.

Copper, Prime, Lake	$13.00 13.10
Copper, Electrolytic	13.00
Antimony, Cookson's	8.50
Lead	4.37½- 4.40
Straits, Tin	30.70
Spelter	5.90- 5.95

CHICAGO IRON MARKET, OCTOBER 7.

Southern, No. 2 Foundry	$ 19.35
Northern, No. 2 Foundry	19.00
Lake Superior Charcoal	19.50-20.00

October 7, 1909.

Foundry Iron was same as week previous.

Copper 1/5 less per lb. than the month previous

1/5 less per lb. than the year previous

NEW YORK OLD METAL MARKET.

New York.—Dealers' buying prices are as follows:

Heavy crucibled copper	$11.62½ to	$12.12½
Light copper	10.00	10.50
Uncrucibled heavy copper	11.25	11.50
Plumbers' cocks and faucets	9.25	9.50
Heavy brass	8.25	8.50
Light brass	6.25	6.50
Heavy lead	4.00	4.10

LEAD HAS A QUIET WEEK.

Joplin, Mo.—The demand for lead ores was scarcely noticeable. Two buying companies were entirely out of the market while the other two bought only sparingly and paid prices which amounted to a drop of $1 per ton generally. The market was nominal at $55 to $56 for

80 per cent grades. The accumulation of lead ore in the district is again growing and it would appear that the outlook for prices which will move this ore is not altogether flattering. Nearly everyone recognizes that metal prices will be held down until the large consumers have made new contracts for ore, when there will be an advance in metal and a consequent advance in ore. Until then the mine operators are holding all the ore they can.

PERSONAL MENTION

J. M. Gilchrist, vice-president and manager of the Indiana Supply Company of Indianapolis, Ind., recently won the hundred-yard swimming event at the Marion Club in that city.

M. A. Morris, buyer for the Toronto branch house of the Standard Sanitary Mfg. Company, of Pittsburg, Pa., has resigned to accept the position of assistant to the manager of the Great Western Pottery Company, at Tiffin, Ohio.

The quintuple portrait of James H. Davis, in charge of the "Vento" department of the American Radiator Company, of Chicago, is an interesting illustration of how a salesman can magnify himself five times and thus make himself that much more efficient to his company. Mr. Davis' efficiency, however, fortunately, does not rest upon a multiplied image of his own personality. He is recognized wherever the word "Vento" is known as being a strong representative for a very useful article. This interesting illustration is reproduced from a photograph which was recently taken at Atlantic City.

Quintuple portrait of James H. Davis, of the "Vento" department, of American Radiator Company, Chicago.

John Lytle, who has for some time past been identified with the sales department of the Woodworth-Wagner Company, of Philadelphia, and who has been traveling in Western and Northwestern Pennsylvania for that well known concern, has severed his connection, and has accepted a position on the sales force of the Bailey-Farrell Mfg. Company, of Pittsburgh, Pa. He will call on the plumbing trade throughout Northwestern Pennsylvania for his new employers, and has already assumed charge of his new territory.

H. Endlich, the master plumber, of 149 Bloomfield avenue, Newark, N. J., made his first appearance at the shop last week, after an absence of six months. Last April Mr. Endlich burst a blood vessel that resulted in paralysis of the left side at that time, and he has been confined to his bed ever since. While he has not entirely recovered, he expects to be in tip top shape before long.

W. T. Bohn has been appointed manager of the department for the manufacture of plumbing specialties of the Allyne Brass Foundry Company at Detroit, Mich. Several new specialties are at present being brought by this department.

George B. Kalbfleish has been appointed manager of the Tiffin (O.) plant of the Great Western Pottery Company, and John Dowling, formerly with the Potteries Selling Company, is now connected with the Kokomo plant of the Great Western Pottery Company.

James A. McDonald, formerly with the Standard Manufacturing Company, of Pittsburgh, Pa., has returned to Pittsburgh after a vacation trip of a month in Canada, and will in the future be identified with the Fort Pitt Supply Company, of that city. He will call on the leading architects and plumbing contractors in Pittsburgh and vicinity, as well as handle other special work which his wide experience in the plumbing supply business has made him capable of taking up. He assumed his new position on October 1.

MIDDLE STATES

Dayton, O.—The Glenn Plumbing Company, of this city, has been incorporated with a capital of $10,000. Daniel E. Glenn is at the head of the enterprise.

Kokomo, Ind.—T. E. Sullivan, of this city, has secured the contracts for the plumbing and heating in the Alhambra building, and in the Johnson college in this city.

Chicago, Ill.—Kehm Bros. Co., of 226 Kinzie street, has secured the contract for the installation of the Van Auken heating system in the Chicago & Northwestern Railroad's new $20,000,000 terminal depot.

Chicago, Ill.—During the first nine months of 1909 permits were taken out for the erection of 8,893 buildings to cost $70,105,230 as against 8,171 permits for buildings to cost $45,779,065 for the corresponding nine months in 1908, an increase of nearly twenty-five million dollars.

NOTES FROM THE WEST

Muskogee, Okla.—O'Connor Company has secured the contract to install a Van Auken heating system in the Security building in this city.

Camden, Ark.—W. S. McDowell, of this city, has secured the contract for plumbing the new school building which is to be built here this fall.

St. Joseph, Mo.—Davidson & Roster, of this city, have been awarded the contract for the plumbing, heating and gas fitting in the new Carnegie Library at North St. Joseph.

Tulsa, Okla.—D. O. Gilliss, of this city, has secured the contract for the plumbing in the Burt Center hotel, on Main street. He also has the contract for the plumbing in C. L. Ford's and J. B. Wilson's residences.

Cedar Rapids, Iowa.—J. H. Fenton & Company, of this city, has secured the contract for the plumbing in the Lincoln school, a fire-proof building. This contract amounts to $2,138. This firm also has the contracts for the plumbing and heating in the Richard block and in the Brown block.

St. Joseph, Mich.—The City Plumbing Company has been awarded the contract for the installation of a hot water heating plant in Mrs. Hayes Brown's new residence on Napier avenue. This company also has the contract for the plumbing and heating in the Congregational church annex and Frank Gillespie's new residence on Forrest avenue.

NEWS FROM PENNSYLVANIA

Schuylkill Haven, Pa.—Mark Campbell has been awarded the contract for the installation of a steam heating plant in Dr. J. A. Lessig's residence.

Wilkes-Barre, Pa.—The plumbing firm of Turner & Van Scoy, of 52 South Main street, has incorporated its business under the name of the Turner & Van Scoy Company, with a capital of $10,000.

Ridley Park, Pa.—Edward Cross, of Hinckley avenue, has secured the contract for the installation of a hot water heating system in one of the most modern residences at Oxford, Pa. The consideration is $1,200. In addition to this work Mr. Cross has contracts for five other hot water heating installations on his books amounting to about $3,000.

Emporium, Pa.—Dininny, Burnside & Company, of this city, have secured the contract for the installation of plumbing and hot water heating systems in T. H. Spring's new store and flat building. This contract calls for ten bath-rooms. This firm also has the contract for the installation of a hot air heating system in the new school building at Cameron, Pa.

New Castle, Pa.—Mr. E. M. Withers, junior member of the firm of Withers & Son, is again on the job after being off duty since September 6. Mr. Withers was one of the passengers on the unruly street car that ran into trouble somewhere between New Castle and Youngstown, and as a result has been looking more like a gridiron gladiator than a master plumber ever since.

NEW YORK NEWS

New York, N. Y.—Cunningham & Bradley, of Broadway and Ninety-first street, have contracts for the plumbing in four residences and an apartment house in Leonia, N. J.

New York, N. Y.—Bedford Plumbing Company, of this city, has been incorporated with a capital of $2,000. The incorporators are Wolf Cadel, of 2067 Bergen street, Brooklyn; Frank J. Weisberg, of 158 East 113th street; Benjamin Fassler, of 726 East Ninth street, both of New York City.

Rochester, N. Y.—Barr & Creelman Company, of this city, has been incorporated with a capital of $100,000 to take over the plumbing and heating business conducted by the firm of Barr & Creelman at 24 Hudson street. The incorporators are J. A. Creelman and W. J. Creelman, both of this city, and H. B. Fairman, of Victor, N. Y.

Albany, N. Y.—George Schade, of 334 Central avenue, has some enviable plumbing contracts in hand, among which are: The new $7,000 residence being erected for Henry Rissig at 252 Delaware avenue; a new $7,000 two-family house at 45 Delaware avenue for Curtis Wadleigh; a new two-family house at 450 Delaware avenue for John Jackson; a new two-family house at 49 Marshall street for Henry Schroeder, and two two-family houses at 240 and 242 Central avenue for Joseph Schaffer.

BOSTON AND NEW ENGLAND

Brockton, Mass.—The order directing the public property committee to expend a sum not to exceed $4,000 for a new heating plant at the City Hall has passed both branches of the city government and the work will now proceed at once.

Clinton, Mass.—O'Toole Brothers have been awarded contracts to install the heating apparatus in the new hotel at Hollis, N. H., the South Lancaster dormitory and the following residences: E. T. Gibbs and W. H. Warren, at Sterling; H. Neilson, James Johnson, H. Gustafson, Benjamin Pearson and H. H. Trowbridge, at Leominster; R. G. Fessenden, at Townsend; A. S. Rogers, at South Sudbury; C. E. Shaw, at Groton; L. W. Phelps, at Ayre; W. L. Watts, at Bolton; P. J. Cameron, D. J. Lacey, W. Creelman, D. Smith, at Marlboro; C. F. Lamlein and P. J. Cooley, at Clinton. They also have the contract for the plumbing of the Metropolitan Water Board gate house building.

PIONEER PLUMBING BUSINESS CHANGES HANDS.

Sanford, Me.—The oldest established business house in the town changed hands a few days ago when George W. Huff sold out his plumbing business to N. J. Presscott. The business was established in 1837 by William L. Emery and has been conducted by a number of different persons up until the present time.

TOO LATE TO CLASSIFY

TRAVELING SALESMAN WANTED.—PLUMBING AND STEAM supplies: sober, industrious and experienced man for territory east and south of Cincinnati. Apply Merkel Bros., Cincinnati, O.

SOUTHERN NOTES

Winnsboro, Tex.—This city has issued bonds to the amount of $18,000 for the construction of a system of water works.

Tallahassee, Fla.—Robert J. Phillips, of this city, has secured the contract for the plumbing in the new school building at Quincy, Fla.

Buckhannon, W. Va.—The contract for plumbing in the new United Brethren Church has been awarded to B. J. Follen, of this city. He has also the plumbing in a new residence here.

Spencer, N. C.—L. A. Henly, formerly of Greensboro, has purchased a half interest in the business of the Spencer Hardware & Plumbing Company, of this place. E. S. Burgess owns the other half of the business.

Florala, Ala.—C. P. Cawthon has opened a plumbing establishment in this town, the only one of its kind here. He would like to receive catalogues and price lists from manufacturers and jobbers of plumbing and heating supplies.

Wheeling, W. Va.—The contract for the steam heating system in the new City Hall under course of construction here has been awarded to the Robert W. Kyle Company, of this city. The contract price for the installation is about $3,550. This concern also has been awarded the contracts for the plumbing and heating in several high-class residences that are being built here this fall.

Mexico, Mexico.—The committee appointed by the government to study the question of the new building for Museum of Archæology, History, Ethnology and Fine Arts has rendered its report to secretary of public instruction. The site of the new museum will be on Avenida Juarez. The new museum will cover an entire block. The estimated cost of the building is $7,000,000.

PACIFIC COAST

THE SITUATION IN THE PLUMBING TRADE AT FRISCO.

San Francisco, Cal.—With the speedy coming of winter a great many people who have been living in the suburban towns have returned to the city and it is becoming very apparent to owners of flats and apartment houses that the present accommodations are not sufficient to meet the demand. The result is that many structures of this character are being planned and the indications are that there will be more winter building in San Francisco done this year than is usually the case. But few store buildings are now being erected in the downtown district and plumbers will welcome the change in the class of work for hotels, apartment houses and dwellings require much more plumbing work than do office and store structures. While most plumbers are being kept fairly busy it is to be noted that their shops are not being operated to full capacity, and it must be asknowledged that conditions are not all that might be desired. Without the question of a doubt there are too many plumbers in San Francisco for the amount of work that will be done from now on. The great rush of building is now largely at an end and from now on a steady growth only will be noticed. That master plumbers are taking work on a very low margin of profit is also true and competition is very keen. Plumbing work is now being done about as cheaply here as has ever been the case and under present conditions an increase in work at prevailing rates would not benefit plumbers a great deal. It is felt, however, that with more work offered there would be less of a tendency to cut rates, such as is prevalent at the present time. One of the advantages that is to be found in the smaller classes of work, such as residence and small flat work is that plumbers are more liable to secure contracts from owners direct, instead of from general contractors, as is the case largely on large buildings. This manner of doing business is not at all to the liking of the master plumbers, but is the general rule followed here at the present time. Many plans have been formulated for bringing about a system whereby plumbers could deal directly with owners, but as yet nothing has been definitely decided upon.

Los Angeles, Cal.—Plans have been prepared for a seven-story office building for J. D. Hooker, to cost $150,000. Architects, Parkinson & Bergstrom.

San Francisco, Cal.—Lacey Bros. have been awarded the contract for the plumbing in Mrs. Elsie Campe's

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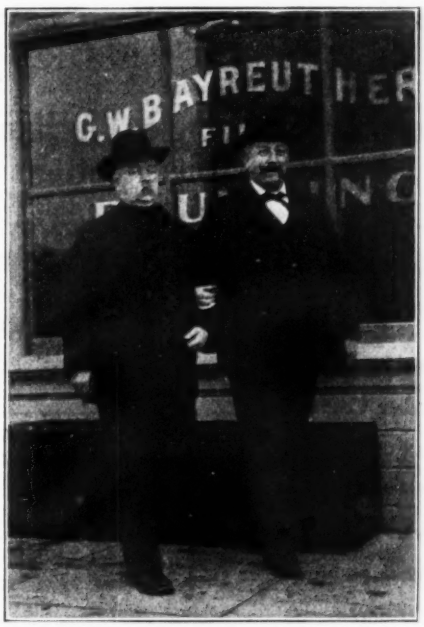


Here are our old friends C. J. Reilly and G. W. Bayreuther, two of the pioneer members of the plumbing trade in San Francisco. They are seen here in front of the latter's shop in that city. Photographed by our Mr. E. De Forest Winslow.

new building at Howard street, near Twelfth. The consideration is $2,385.

San Francisco, Cal.—Some of the contracts for the construction of the Children's Hospital have been let and the plumbing, heating and ventilating contracts will probably be announced within a few days.

Roseburg, Oregon.—Howard & Mahan have been awarded the contracts for the plumbing and heating in the new Laurel Lodge's 4-story brick building which is being erected here in accordance with Architect W. A. Straw's plans. The consideration amounts to $2,400.

Walla Walla, Wash.—A. H. Sutherland, of the Sutherland Plumbing Company, of this city, has prepared plans and specifications for a municipal water system for the town of Freewater. A special election is to be held in that town to vote bonds for establishing the water system.

San Francisco, Cal.—James E. Stewart has been awarded the contract for the plumbing and gasfitting work for B. Brodnax in a large apartment house that is being erected at Pine and Jones streets. The heating system for this building is to be installed by the Globe Engineering Company.

San Francisco, Cal.—With the exception of the kitchen equipment, work in the plumbing and gasfitting line in the new Palace Hotel may be regarded as being completed. The hotel is to open on November 9th, and this work is to be completed within two weeks. Mangrum & Otter are installing the kitchen equipment and have a large force of men working there at the present time.

BLANK FOR REPORT

—OF—

Awards of Heating or Plumbing Contracts

(Cut out, fill in and mail promptly)

DOMESTIC ENGINEERING
Chicago

We have been awarded the

Plumbing Contract_____

Heating Contract_____

Kind of Building_____

Amount of Contract_____

Owner's Name_____

Architect's Name_____

Address_____

Our Own Name_____

Address_____

San Francisco, Cal.—School contracts continue to occupy the attention of the local plumbers and heating engineers and another contract was let this week by the Board of Public Works. The John G. Sutton Company has contracted to do the plumbing work in the Lakeview school for $6,027, and the Wittman-Lyman Co. will install the heating and ventilating work for $10,990.

Master plumbers and master steam-fitters are earnestly requested to send us reports of the award of plumbing and heating contracts of $1,000 or more, as soon as these have been awarded, while the information has news value. Kindly address: Editor "Domestic Engineering," 209-213 N. Jefferson street, Chicago.

FOR THE OFFICE BOOK SHELF

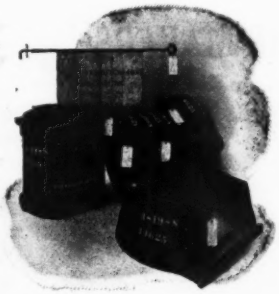
We are in receipt of an announcement from the publishing department of the Standard Sanitary Mfg. Co., of Pittsburg, Pa., that J. J. Cosgrove's new book on **"Wrought Pipe Drainage Systems"** will be ready for delivery in November. This book will be a companion book in subject, size and style of binding to Mr. Cosgrove's "Principles and Practice of Plumbing," "Sewage Purification and Disposal," and "History of Sanitation." The work will treat in Mr. Cosgrove's usually thorough and clear manner of writing the working and manipulation of wrought pipe, the cutting, threading, bending and working of brass and nickel plated pipe, and his directions are so carefully made that any person with average skill will be able by using this book to lay out and follow to a successful completion a perfect workman-like job in wrought or brass pipe. Mr. Cosgrove has intended to make this book of interest not only to the plumber and helper, but to the civil, mechanical, refrigerator and operating engineer, steamfitter, gasfitter and pipefitter as well. The book will be freely illustrated with original drawings. The cost is to be $2.00 a copy, delivered.

The Standard Sanitary Mfg. Co., of Pittsburg, Pa., announces that it has issued a fifty-two page pamphlet of uniform roughing-in measurements for lavatories. Heretofore measurements have been furnished from each of their factories individually upon request and these measurements applied only to the goods made in those particular works. It is announced that similar patterns are now in use in all the factories and any measurements given in the pamphlet referred to will apply to all goods manufactured at all the factories of the company after September 1, last. A copy will be sent free upon application, mentioning "Domestic Engineering." It is interesting to know that similar pamphlets are being prepared which will give the roughing-in measurements of baths, sinks, and the other sanitary specialties manufactured by the company. The use of these will save the plumber and fitter very much time and aid him in making accurate work.

The Van Nostrand Chemical Annual, by John C. Olsen, A. M., Ph. D., second edition. Published by D. Van Nostrand Company, 23 Murray street, New

Order-filling Dispatch.

Well-stocked warehouses centrally located and unusually adequate manufacturing facilities give the Heating Contractor satisfying assurance that his order for IDEAL Boilers and AMERICAN Radiators will reach him in ample time for his properly taking care of his work.



IDEAL Arco Boiler Shipment.

IDEAL Boilers and AMERICAN Radiators are dependable both to the Heating Contractor and his customers. They are made right, shipped properly and promptly—three welcome factors of satisfaction to the busy dealer.

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A Heating Outfit is More Efficient with NORWALL and SYLPHON SPECIALTIES

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General Offices, 282-286 Michigan Ave., Chicago.

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Washington					

York City. Price, $2.50. As an up-to-date handy reference book on chemical and physical data it has no equal in the English language, it is said. Anyone who is interested in any branch of manufacture or chemical line will therefore be glad to have a copy of this book on his desk.

THE SHOP BOOKSHELF

Being a brief mention of late publications which are worthy of special notice because of their unusual interest to the trade. They should be on "The Shop Bookshelf" in every plumbing and steam fitting establishment for instant reference. A free copy of any publication referred to under this heading may usually be had by mentioning "Domestic Engineering" when you write.

From the Ideal Mfg. Co., of Detroit, Mich.: A 7"x9½" folder, illustrating and describing the "Ideal" Triplex copper coil water heater.

From H. B. Sherman Mfg. Co., of Battle Creek, Mich.: Four 6x9" circulars, illustrating with prices: Compression hose bibbs for iron pipe; low down compression basin cock with china index; three styles of sill cocks.

From Atwood & Morrill, Salem, Mass.: "Catalogue B," size 6x9", twenty pages, paper cover. Illustrates and describes this company's line of Twentieth Century steam appliances. Gives prices and very complete information about each item listed.

From the Lucas Pump Co., of Dayton, O.: An eight-page folder, size 3½x6¼", showing several types of power pumps made by this company. The illustrations are good and the information as to prices, capacities, details of construction is very complete.

From the Lavigne Mfg. Co., of Detroit, Mich.: A four-page folder, size 3½x6¼", illustrating and describing the Lavigne Packless radiator valve. One cut of the valve gives a sectional view, which with the accompanying descriptive matter, gives a very clear idea of its construction and operation.

From the Butterworth Supply Co., of Philadelphia, Pa.: "Catalogue A," size 6"x10", heavy paper covers, 112 pages, profusely illustrated throughout. Lists a large line of plumbers' specalties made of brass, rubber, leather, fibre, etc., also plumbers' tools, hose fittings, screws and repairs. Comprehensively indexed and a handy book to have on any shop bookshelf.

From Berger Bros. Co., 237 Arch street, Philadelphia, Pa.: A 160-page catalogue, paper covers, size 5¾x8¾". Contains descriptions, illustrations and prices of a large line of tinners' and roofers' supplies and especially malleable and wrought pipe hooks and straps, both ornamental and plain, for plumbers' use. Their line also includes registers and ventilators for every purpose.

From Blake Specialty Co. (Inc.), of Rock Island, Ill.: "Blake's Book for Plumbers," a twelve-page, 4½"x7", paper covered booklet, attractively printed, illustrating and describing the specialties made by "Blake." Blake makes the Blake Clean-out Plug, Drum Traps made of brass, lead and iron, Blake's clean-out or test tee, and Blake's "No Back" floor drain. This is the second edition of Blake's book .

From Columbus Brass Co., of Columbus, O.: A 6"x9" catalogue, paper covers, 142 pages, illustrated with numerous half tone engravings. The listings include water closets and closet seats, tanks and fittings, bath-room fittings, brass railings, marble fittings, gas goods specialties, valves, traps, etc. The book is attractively printed and well indexed, making it a very satisfactory addition to the shop bookshelf.

From The Bishop & Babcock Co., of Cleveland, O.: A 6"x9" paper covered booklet of eight pages. Contains some very fine full-page half-tone engravings of the automatic hydraulic vacuum pumps manufactured by this company. Explains the principles and value of the vacuum heating idea, laying particular stress upon the value of their hydraulic vacuum pump in the successful operation of such a heating system. This booklet is very attractive in appearnce and well gotten up in every way.

From Fowler & Wolfe Mfg. Co., 668 Bourse bldg., Philadelphia, Pa.: "Catalogue F," 4½x7", thirty-two pages, heavy paper covers, illustrated. In addition to illustrating and describing a most complete line of wall radiators, this neat little book gives much information about proper arrangement of wall radiators and a summary of results of tests made under the direction of the German government relative to the efficiency of wrought iron pipe coils as against Fowler & Wolfe wall radiators.

WITH THE MAKERS

System Applied to the Plumbing Shop.

System is working wonders in the commercial life of this country by its power to economize time and labor and increase efficiency. One of the finest things for plumbers along this line are the rack labels, applied to shelves, racks or drawers, telling not only the article but illustrating it. These labels are made by the Mercantile Label Company, of Nashua, N. H., plainly printed on waterproof card board, 5"x1⅝". They may be used either with or without the serviceable holder furnished by the company. They are inexpensive either way. Kindly refer to this article when you write the company for samples and prices.

The "No-Sol" Float.

Worthy of particular attention is the line of Solderless floats manufactured by the Ayling & Reichert Co., of 2129 Canton street, Toledo, Ohio. They are known to the trade as the No-Sol Float and are made of heavy gauge sheet copper, put together in two sections with a rubber washer seamed in securely. No solder being used on this float it is unaffected by alkali or other impurities in the water. The makers of these floats are calling special attention to their 4x5" oval float, which will fit the narrowest of tanks used for general purposes and which, it is said, will work perfectly on all makes of valves. It is especially constructed for low down tanks. When writing for

information and prices, kindly mention the source of your information.

A New Kewanee Radiator.

Kewanee three-column radiator.

The new pattern radiator here illustrated, which is also made in the plain pattern, became at once very popular with architects, trade and owners, when first put on the market several months ago, according to the manufacturers. The design is made with a view to producing a radiator offering the slightest possible amount of frictional resistance to the circulation of steam or water. Like other Kewanee radiators made by the Kellogg-Mackay Company, of Chicago, the sections are connected by extra heavy, seamless push nipples, which insure a tight joint and make a practically one-piece radiator. These radiators are pleasing in appearance, and are very compact, occupying little space. Readers interested in this product can obtain further information from the manufacturers upon request, mentioning "Domestic Engineering."

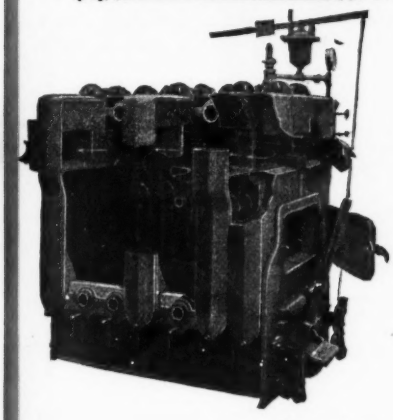
A New Pipe Threading Tool.

In tools made to thread several sizes of pipe with one set of dies, the cam sometimes has many weaknesses as any plumber knows. The dies slip, the cam-slots wear, and the original setting-marks soon become inaccurate. In the tool illustrated here, made by The Toledo Pipe Threading Machine Co., Toledo, Ohio,

The Toledo pipe threader, No. 10, which threads pipe from 1" to 2" without changing dies.

there are no cams, face-plates, wing nuts or other complicated mechanism. The dies rest solidly against rigid-bearing surfaces—the dies stay where set. A long taper thread may be secured with this tool, thus satisfying the need of that particular class of trade—the ice-plant builders, who require long-threaded joints for ammonia pipes. In changing from the regu

CAPITOL BOILERS AND RADIATORS



Another Thing About Quick Repairs

We have said "In case of any accident to the sections of **Improved Capitol Boilers,** quick repairs can be accomplished more quickly and easily than with any other boiler."

There is something else, though.

Should it be necessary to make use of the quick repair feature, the permanent repair can be made with less expense. Why? Because Capitol Boilers have divided sections. The sections being in halves, it is not necessary to purchase a section for the entire width of the boiler, but for only one half.

See the point?

United States Heater Company.

General Offices and Works: Fort St. and Campbell Ave., DETROIT, MICH.

BRANCHES:

NEW YORK	129 Worth St.
CHICAGO	34 Dearborn St.
OMAHA	916 Farnam St.
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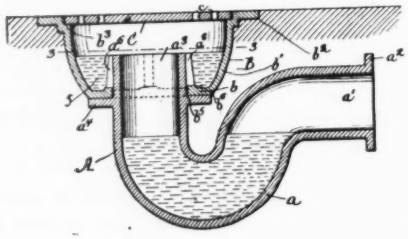
SALES AGENCIES:

MINNEAPOLIS, MINN., Plumbing & S. F. Supplies Co.
ST. LOUIS, MO., L. M. Rumsey Manufacturing Co.
DENVER, COLO., Kellogg & Stokes Stove Co.
DULUTH, MINN., Duluth Plumbing Supply Co.

lar or right-hand dies to the left-hand dies, it is only necessary to screw out the die-head until the dies clear the step-case, pull out the dies in the tool, push in the others, and go ahead. Inquirers should mention this article when writing the makers for information.

PATENTS

935,000. **Floor-Drain.** George J. Dehn, Chicago Ill., This invention is covered by ten claims, one of which reads as follows: "In a floor-drain, the combination of a drain-pipe having a trap-bend therein and an upwardly extended inlet-terminal, a receiver-basin having



a strainer-top, an integral flange on said pipe-terminal, and a slip and interlocking connection between the basin and the upwardly extending terminal of said pipe, for securing the base of said basin against said flange to form a water-tight connection.

935,006. **Filter.** David W. Field, Plumsteadville, Pa.

935,015. **Injector for Hot-water Heaters.** Joseph W. Guimont, Montreal, Quebec, Canada, assignor to Dorina Laframboise Guimont, Montreal, Canada.

935,044. **Outlet Valve for Lavatory.** Lenn G. McCorry, Carbon Center, Pa. Filed Jan. 12, 1909. Serial No. 471,953.

935,112 and 935,113. **Valve.** James L. Judge, Minneapolis, Minn.

935,117—**Hot-Water Heater.** William H. Kogle, Mason City, Iowa.

935,118. **Check-Valve.** Richard F. Kreiter, Houston, Tex., assignor to Mahlon E. Layne, Houston, Tex.

935,172. **Radiator.** Samuel D. Stauffer, Lancaster, Pa.

935,217. **Pressure-Regulating and Shut-Off Valve Combined.** Cosby D. Miller, St. Joseph, Mo.

935,290. **Lavatory.** Samuel Bedson, Trenton, N. J., assignor to The John Douglas Company, a Corporation of Ohio.

935,303. **Water-Purifying Apparatus.** John C. W. Greth, Pittsburg, Pa., assignor to Wm. B. Scaife & Sons Company, Pittsburg, Pa., a Corporation of New Jersey.

935,329. **Valve.** John A. Serrell, North Plainfield, and Millard P. Osbourn, Merchantville, N. J., assignors to Warren Webster & Company, a Corporation of New Jersey.

935,341. **Flushing-Cistern for Closet-Bowls.** John H. Van Zandt and William E. Thacher, Fort Worth, Tex.

935,281. **Ball-Cock.** Elmer S. Stack, Somerville, Mass.

935,359. **Filtering Apparatus.** Daniel Diver, Deerfield, Mich.

935,360. **Globe-Valve.** Charles E. Fisher, Verplanck, N. Y.

935,373. **Valve for Hydrants, Stand-Pipes, and the Like.** Hans S. Lange, Christiania, Norway.

935,408. **Water-Heater.** Frederick W. Robertshaw, Pittsburg, Pa.

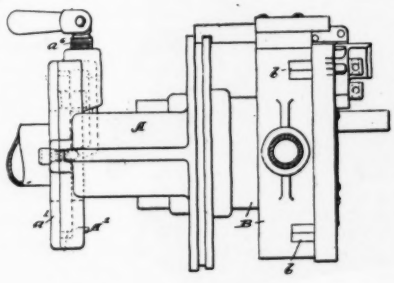
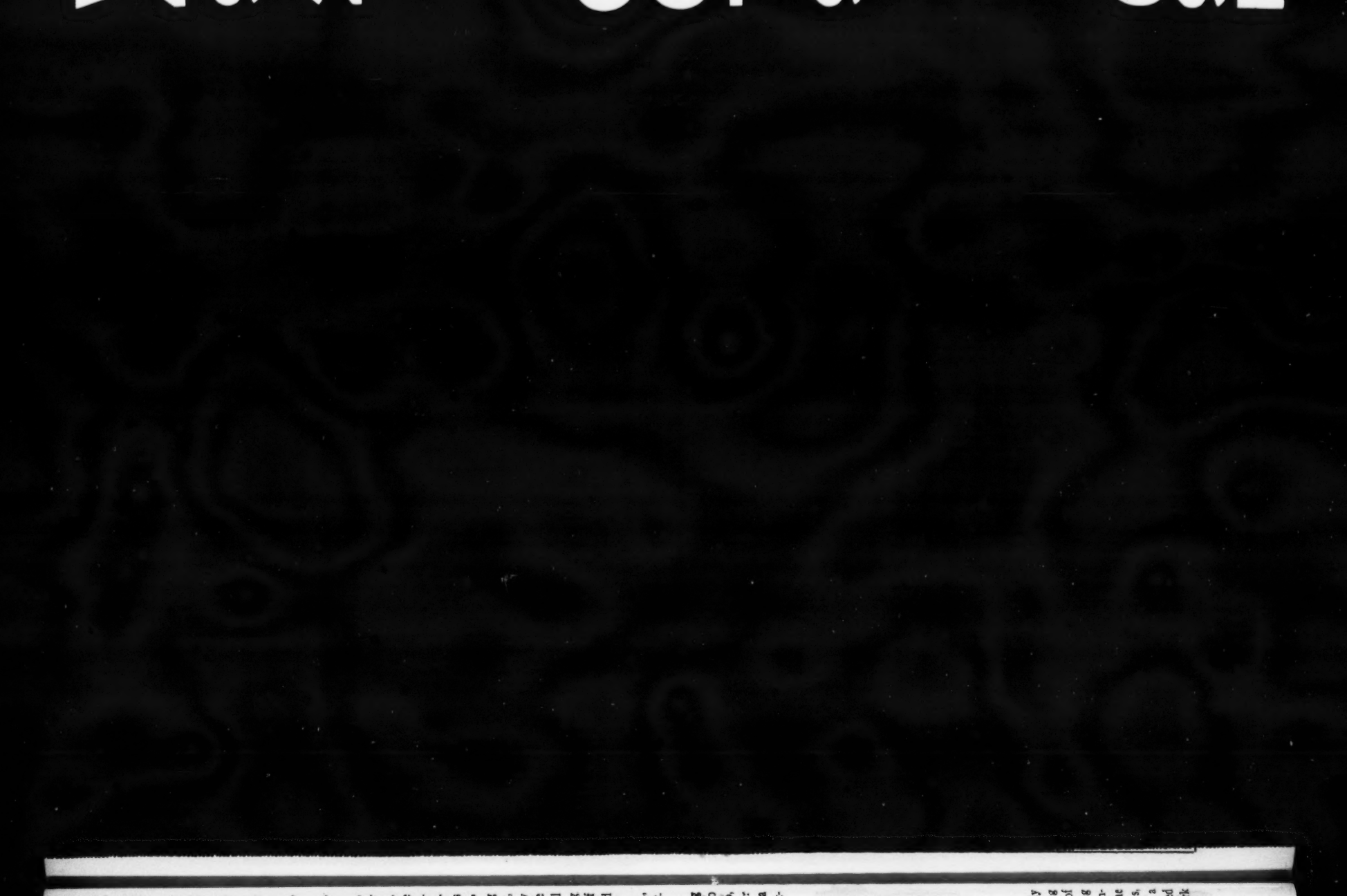
935,412. **Pipe-Joint.** Robert R. Rust, New York, N. Y.

935,426. **Steam-Trap.** Cole Stickle, Indianapolis, Ind., assignor to The Open Coil Heater and Purifier Company, Indianapolis, Ind., a Corporation of Indiana.

935,448. **Float-Ball for Flushing-Tanks.** Theodore Zwermann, Kalamazoo, Mich. This invention is described as follows: "A ball of the class described embodying a pair of hemispherical sheet metal sections the meeting edges of which are deflected outward in the form of circumferential flanges having flat meeting surfaces fastened together by an air-tight welded joint, said flanges and portions of each section being cut away leaving an aperture which extends on both sides of the welded flanges, and a nipple passing through said aperture and provided with a flange at one end having a fixed surface which conforms to the inner contour of the ball forming a welded joint between the nipple and the ball."

935,471. **Hydrant-Casing.** Jacob Day, St. Louis, Mo., assignor to John C. Kupferle Foundry Company, St. Louis, Mo., a Corporation.

935,107. **Work-Holding Means for Screw-Threading Devices.** Louis F. Hart, Cleveland, Ohio, assignor to The Hart Manufacturing Company, Cleveland, Ohio, a corporation of Ohio. Among the five claims made for this invention the broadest reads as follows: "In a screw cutting device, the combination with a work-



holding member, of a die-holding member rotatably and longitudinally movable therein, said work-holding member comprising a rectangular frame, a plurality of triangular slides mounted in said frame and forming jaws for centering the work, an adjusting screw connected with one of said slides to positively position the same and therethrough to position the remaining slides, whereby a variable central aperture is formed, and a set screw, in line with the bisector of the angle formed by two of said slides, adapted to clamp the work against the same."